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The role of Injectable Opiate Treatment in the patient's journey of recovery from entrenched heroin dependence

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A thesis submitted for the degree of Doctor of Philosophy

Alice: *Would you tell me, please, which way I ought to go from here?*
The Cheshire Cat: *That depends a good deal on where you want to get to.* Lewis Carroll (1865): Alice's Adventures in Wonderland.

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Victoria Brooks, January 2016.

Abstract

Background

Supervised Injectable Opiate Treatment (IOT) is a complex, intensive treatment modality that has been effective in treating long-term, chronic, previously treatment refractory heroin users. The mechanisms that make it an effective treatment modality are little explored, and never in a UK context.

Aims

In a UK supervised IOT context, this thesis set out to describe the long-term treatment trajectory of patients receiving IOT. Additional aims were to describe the experience of patients receiving IOT and ascertain the role of IOT in the patient's overall journey of recovery. In so doing, the thesis contributes to the scientific understanding of IOT.

Method

Quantitative measures are employed to describe treatment process and the effect of treatment duration on outcome. Qualitative measures are utilised to describe the following: patients' drug use and treatment histories; goals for, motivations, and expectations of IOT; experience with IOT; satisfaction with IOT; views on the impact of IOT; and views of, and goals for, patients' recovery

Results

Quantitative findings illustrate that some participants remained in IOT long-term, whereas others discharged or moved back on to oral treatment modalities. When long-term IOT was undertaken, initial gains made were sustained. Qualitative findings illustrate that patients conceive effective IOT as flexible, psychosocial, person-centred, and encompasses autonomous ongoing support. Recovery is perceived as an ongoing, individualised journey, and the need for support following both IOT and abstinence are identified.

Discussion

Strengths and limitations of the research are discussed. IOT is best delivered as an individualised, time-limited, goal-driven, flexible treatment programme for those entrenched users with long-term, treatment refractory histories. Numerous findings have utility for policy and clinical practice and there is scope for examination of individually tailored treatment programmes through further research and, a systematic exploration of longitudinal outcomes.

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List of abbreviations

ACT – Acceptance and Commitment Therapy

APA – American Psychological Association

ASI – Addiction Severity Index

CBT – Cognitive Behavioural Therapy

CI – Confidence Interval

CSQ - Client Satisfaction Questionnaire

DNA – Did Not Attend

DSM – Diagnostic and Statistical Manual of Mental Disorders

EMCDDA – European Monitoring Centre for Drugs and Drug Addiction

EQ5D – EuroQol quality of life questionnaire

EU – European Union

EUC – Enhanced Usual Care

HAT – Heroin Assisted Treatment

HCV – Hepatitis C

HIV – Human Immunodeficiency Virus

IDU – Injecting Drug User

IoP – Institute of Psychiatry (new name below)

IoPPN – Institute of Psychiatry Psychology & Neuroscience

IOT – Injectable Opiate Treatment

ITT – Intention to Treat (analysis)

JS – Professor John Strang – Thesis supervisors (joint secondary)

KCL – King's College London

LOCF – Last Observation Carried Forward

MAP-HSS - Maudsley Addiction Profile-Health Symptom Scale

MMT – Methadone Maintenance Treatment

MXL – Slow Release Oral Morphine Treatment (tradename: MXL)

NAOMI – North American Opiate Medication Initiative

NHS – National Health Service

NICE – National Institute for Health and Care Excellence

NIDA – National Institute on Drug Abuse

NM – Nicola Metrebian – Thesis supervisor (primary)

NNT – Number Needed to Treat

NRES – National Research Ethics Committee

NTA – National Treatment Agency

OM – Oral Methadone treatment

ONS – Office for National Statistics

OOM – Optimised Oral Methadone treatment

OST – Opiate Substitution Treatment

PCT – Primary Care Trust

PHE – Public Health England

R&D – Research and Development

RCT – Randomised Controlled Trial

RIOTT – Randomised Injectable Opiate Treatment Trial

RP – Relapse Prevention

SAE – Serious Adverse Event

SCL-90-R – Symptom Checklist-90 questionnaire

SF12 – Short Form 12 quality of life questionnaire

SF36 – Short Form 36 (quality of life questionnaire)

SHA – Strategic Health Authority

SIH – Supervised Injectable Heroin

SIM – Supervised Injectable Methadone treatment

SPSS – Statistical Package for the Social Sciences

TAE – Treatment as usual

TW – Timothy Weaver – Thesis supervisor (joint secondary)

UC – Usual Care

VB – Victoria Brooks – PhD candidate

WHO – World Health Organisation

Chapter 1: Introduction

The aim of this thesis is to contribute to existing research and scientific evidence-base regarding the delivery and effectiveness of supervised Injectable Opiate Treatment (IOT) in the UK through examination of the outcomes, experiences and perspectives of patients in the UK Randomised Injectable Opiate Treatment Trial (RIOTT). The thesis aims to contribute to the scientific understanding of both Supervised Injectable Heroin (SIH) and Recovery in the context of this treatment.

This introduction chapter includes:

Details regarding the prevalence of heroin use, dependence and injecting, and information about the numbers of patients receiving treatment for heroin dependence.

The different types of treatment available, including an outline of the history of non-supervised IOT in the UK and the introduction of the new European and Canadian supervised injecting clinics.

The overall context in which supervised Injectable Opiate Treatment (IOT) is carried out.

Relevant policy in this area is outlined along with details of the RIOTT trial and the current situation for IOT.

Chapter two provides a review of existing literature in this field.

1. Addiction

The National Institute on Drug Abuse define addiction as a chronic, relapsing disease, characterised by compulsive drug seeking and use, and by neuro-chemical and molecular changes in the brain (National Institute on Drug Abuse, 2013). Substance dependence or addiction, as defined by (American Psychiatric Association and Task

Force on DSM-IV, 2000) the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) (American Psychiatric Association and Task Force on DSM-IV, 2000), is a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as indicated by the manifestation of three or more of the following: withdrawal symptoms; tolerance; continued use despite harm; loss of control; failed attempts to reduce or cease use despite desire to reduce or cease use; significant reduction in involvement in important activities, and preoccupation with thinking about or obtaining the drug (American Psychiatric Association and Task Force on DSM-IV 1994; McLellan, Lewis, O'Brien, & Kleber, 2000).

The use of psychoactive substances has prevailed since the dawn of recorded history (Hill and Newlin, 2002) and opiates have a long history of both medicinal and recreational use, dating back to at least the Sumerian civilisation of 4000BC (Friedman, 1996). Psychoactive substances have assumed increasing public attention in most parts of the world, especially when broadly defined to include licit and illicit drugs, and to include pharmacological agents that have high dependence potential (Babor, 2010).

1.2. Heroin: history and dependence

1.2.2. Opioids

The opioids are a class of drug that include the natural products of the opium poppy ('Papaver somniferum'), and synthetic compounds derived from it (Darke, 2011). The term describes any of the narcotic alkaloids found as natural products in the opium poppy plant, as well as many semi-synthetic chemical derivatives (European Monitoring Centre for Drugs and Drug Addiction, 2010). This includes heroin, morphine, codeine, methadone, oxycodone and fentynl. The term 'opiate' relates to the natural alkaloids found in the resin of the opium poppy (Darke, 2011). Major production for both opium and heroin are South-West Asia - mainly Pakistan and Afghanistan - and south-east Asia - mainly Laos and Myanmar (United Nations and Office on Drugs and Crime, 2009).

1.2.3. Heroin

The word ‘heroin’ comes from the German word ‘*heroisch*’ - which translates as ‘heroic’. The translation perhaps provides some insight into how positively the drug was interpreted by medical practitioners in its early days. Diacetylmorphine (more commonly known as diamorphine or heroin) was first synthesised and used as a medicinal product from the late nineteenth century to the early twentieth century (Strang, Groshkova, and Metrebian, 2012). Its production was developed on a commercial scale by the Bayer Company in 1898. Beginning with the Hague Convention in 1912, heroin was brought under international control; its use limited to ‘legitimate’ medical and scientific purposes – however, the drug continued to be abused by a small number of people in Europe (Strang, Groshkova, and Metrebian, 2012). Heroin was first controlled in the United Kingdom under the Dangerous Drugs Act of 1920 (Dangerous Drugs Act, 1923). Thereby the medical profession regulated the distribution of licit opioid supplies, and the provision of the Dangerous Drugs Acts of 1920 and 1923 controlled illicit supplies.

Between the world wars the number of individuals dependent on heroin and morphine was relatively small and largely therapeutic - i.e., doctor induced - (Merry, 1975). From 1954 there was a steady rate of increased addiction to heroin, particularly amongst younger people (Merry, 1975). In 1959 the number of known heroin addicts was 68; in 1960 it was 94; in 1962 it was 175; in 1964 it was 342; and in 1966 it was 749 (Merry, 1975). In 1968 - when treatment centres had been established - the number registered in treatment was under 2000 (Merry, 1975). Until the 1950s, the majority of heroin dependent individuals in the United Kingdom were addicted in the course of medical treatment, and middle-aged or elderly (Bean, 1974).

During the 1950s, the small increase in illegal drug use in Britain led to a process of rapid policy review and change, the impact of which is relevant to the present day (Bennett, 1988). Because of this change, a complicated process of legal and medical constraints, treatment methods, and information controls evolved (Bennett, 1988; Smart 1984). The Brain Committee 1965 (Stimson and Ogborne, 1970) recommended that special clinics be established in which greater control over the amount of drugs prescribed would be exercised, and that notification of heroin users to the Home Office should be made compulsory.

By the 1960s, numbers of heroin users had started to steadily grow, and structured treatment services were set up by the end of the decade (Berridge, 1980). In the mid-

1970s, use of the drug increased across Europe (Hartnoll et al., 1985), peaking during the 1980s and into the 1990s in western and southern European countries. A heroin epidemic emerged in the UK in the early 1980s, and by the 1990s drug-related deaths were a major cause of mortality among young adults (Edwards, 2004). Since 1980, notifications of new dependent heroin users rose by almost 40% per year (Hartnoll et al., 1985). In 1983, 85% of first notifications involved heroin as the principal drug of addiction (Hartnoll et al. 1985). There was a further peak in heroin use - in the 1990s to early 2000s; in eastern and central European countries (Hartnoll et al., 1985; Strang, Groshkova, and Metrebian, 2012).

1.2.4. Dependence and consequences

Today it is known that heroin use can produce profound degrees of tolerance and physical dependence, and these can become powerful motivating factors for compulsive use and abuse (National Institute on Drug Abuse, 2013). Now recognised as a chronic, relapsing condition, for many dependent users heroin dependence is a persistent, long-term affliction with severe consequences, particularly in terms of premature mortality and high morbidity. (Hser, 2007b). The risks of opioid dependence include fatal overdoses, infections (including endocarditis, human immunodeficiency virus infection, and hepatitis C virus infection), social disintegration, violence, and crime (Oviedo-Joekes et al., 2009). The associated costs to communities include medical, public health, and criminal justice costs as well as public disturbance and crimes against property (Oviedo-Joekes et al., 2009). This information further emphasises the pertinence and importance of effective treatment programmes for dependent heroin users.

It is known that once dependent, users of heroin gradually spend more and more time and energy obtaining and using the drug, and eventually this may become the primary focus for existence (National Institute on Drug Abuse, 2013). Problematic drug use has a high social and economic cost to society (Mark et al., 2001) and once established, heroin addiction is a relapsing, unremitting condition with high rates of ill-health and mortality (Davoli et al., 1997). Heroin use is associated with serious health risks (Oviedo-Joekes et al., 2009) such as abscesses; blood born viruses such as HIV and hepatitis C; violence; overdose and serious social disadvantage, such as unemployment; homelessness; lack of support networks; engagement in crime and drugs subcultures (Bell et al., 1997; Darke, 2011) and an association with higher rates

of premature disengagement from education (Darke, 2011). The high prevalence of hepatitis C among injecting drug users, for example, means that there will be substantial mortality, morbidity and associated economic costs, as a result of higher incidence of liver disease in this group (Stockwell et al., 2005). The lives of injecting drug users are characterised by instability and chaos, with disadvantages for local communities, such as incidences of acquisitive crime, and for the larger community, through costs associated with treatment and medical care (Darke, 2011). Psychiatric comorbidity – particularly anxiety, but also affective, antisocial and other personality disorders – is common among opioid-dependent people (National Institute for Health and Care Excellence, 2007a).

1.2.5. Prevalence

Compared to other illicit drugs - for example cannabis, which has a worldwide usage prevalence of an estimated 186 million (United Nations Office on Drugs and Crime, 2013) - the prevalence of opioid use is relatively low, with a prevalence rate of 0.3% amongst 16-59 year olds in England and Wales (in 2013), as compared to 6.4% for cannabis and 1.9% for cocaine (Office of National Statistics, 2011). However it is consumed by individuals in most countries across the world (Office of National Statistics, 2011). Injecting drug use has been reported to occur in more than 148 countries worldwide and in 2013 the global injecting drug using population was estimated at around 16.5 million (United Nations Office on Drugs and Crime, 2013).

During 2005 and 2006, of the estimated 150,000 injection drug users in the UK aged 15 to 64 years (Mathers et al., 2008), 41% were in contact with drug treatment services (Hay et al. 2008). 2010 reports by Hay, Gannon, Casey and Millar (2010) estimate that there were approximately 264,000 opiate users across England, with an estimated 42,511 (16%) of these residing in London. There were an estimated 103,185 Injecting Drug Users (IDUs) across England and approximately 13,056 (13%) resided in London (Hay et al. 2010). Precise figures are difficult to establish, not least because of the stigma attached to illicit drug use, and particularly to injecting drug use.

More recent statistics demonstrate that around 1 in 12 (8.2%) adults aged 16 to 59 had consumed an illicit drug (excluding mephedrone) in the last year; a fall compared with 2011/12 of 8.9% (Lifestyles Statistics, Health and Social Care Information

Centre, 2013). This equates to around 2.7 million people (Lifestyles Statistics, Health and Social Care Information Centre, 2013). 2.6% of adults had taken a Class 'A' drug in the last year (almost 850,000 people; Lifestyles Statistics, Health and Social Care Information Centre, 2013). Cannabis was the most commonly used drug, with 6.4% of adults having used it in the last year (Lifestyles Statistics, Health and Social Care Information Centre, 2013).

The next most commonly used drugs in the preceding year were powder cocaine (1.9%) and ecstasy (1.3%; Lifestyles Statistics, Health and Social Care Information Centre, 2013). Between 2011 and 2012 there were an estimated 256,163 individuals using opiates in England (Hay, Dos, and Worsley, 2012). Of these 87,302 were injecting drug users (Hay, Dos, and Worsley, 2012). Between 2013 and 2014, 193,198 individuals in England were treated for drug dependence and most (79%; 47% opiates only and 32% opiates and crack) patients in contact with treatment services were using opiates (Public Health England, 2013). The most common routes into treatment for patients beginning treatment in 2013-14 were self-referrals (44%) and referrals from the criminal justice system (27%). Onward referrals from other drug services together accounted for 11% (Public Health England, 2013).

1.2.6. Mortality rates

In terms of mortality rates there were 3,346 drug poisoning deaths registered in England and Wales in 2014, the highest since comparable records began in 1993 (ONS, 2015). Of these, 2,248 (or 67%) were drug misuse deaths involving illegal drugs (ONS, 2015). The mortality rate from drug misuse was the highest ever recorded at 39.9 deaths per million population. Males were over 2.5 times more likely to die from drug misuse than females - 58 and 21.9 deaths per million population for males and females respectively (ONS, 2015). Deaths involving heroin and/or morphine increased by almost two-thirds between 2012 and 2014, from 579 to 952 deaths (Office for National Statistics, 2015).

Data in 2012-2013 (Lifestyles Statistics, Health and Social Care Information Centre, 2013) on hospital admissions where the primary diagnosis is poisoning by illicit drugs are as follows. In the South East England Strategic Health Authority (SHA) there were n=818 admissions, with an n=111 in Brighton and Hove City Primary Care Trust (PCT). In the London SHA there were n=1029 admissions (Lambeth n=44; Southwark

n= 47). In North East England SHA there were n=976 admissions, with n=39 in Darlington. Overall these figures illustrate the extent of the problem and the pertinence of efficacious treatment programmes. It should be noted that these specific regions are of relevance to the samples included in the thesis.

On an individual level, for treated users with over 20 years of addiction, the chances of becoming and remaining abstinent are roughly equal to chances of dying prematurely; about a third in each case (Hser 1993; Goldstein and Herrera, 1995). The remaining third move through a cycle of imprisonment, drug treatment, and active heroin use into their 40s and 50s (Goldstein and Herrera, 1995; Hser, 1993).

1.3. Recovery

The term 'Recovery' is the commonly accepted goal for the treatment of disorders, including addiction (El-Guebaly, 2012). Despite the recognition of heroin as a chronic, relapsing condition, relatively little is known about long-term recovery processes among heroin users who attain and maintain long periods of abstinence (Hser, 2007a). Hser (2007a) sought to identify predictors of long-term stable recovery from heroin dependence based on N=242 heroin users who were followed for more than 33 years. Findings showed that recovery and non-recovery groups did not differ in deviant behaviours and familial or educational difficulties in their earlier lives (Hser, 2007a).

This is an interesting area and more detail about the pre-treatment lives of heroin using and heroin treatment samples might be useful for exploring potential patterns and themes amongst these groups. In Hser's (2007a) research, both groups (defined as 'recovered' and 'non-recovered') had previously attempted formal treatment and self-directed recovery ("self-treatment"), and often repeatedly. The non-recovered heroin users were significantly more likely to: use substances to cope with stressful conditions; have spouses who also misused drugs, and lack non-drug-using social support. Stable recovery ten years later was predicted by: ethnicity, self-efficacy, and psychological distress.

These findings suggest that in addition to early intervention to limit heroin addiction, increasing self-efficacy and addressing psychological difficulties are likely to enhance the odds of maintaining long-term stable recovery (Hser, 2007a). These findings demonstrate the necessity for individualised psychological interventions through

Opiate Substitution Treatment (OST). Hser (2007a) highlights the pertinence of obtaining a detailed pre-treatment history from treatment groups, encompassing how individuals came to become habitually dependent upon heron. This is more commonplace in therapeutic practice and may have use within research with these samples. This may perhaps provide relevant information for individual recovery and treatment journeys in research patient case examples.

Few studies have investigated the process of stable recovery, yet a number of theories have been created in an attempt to explain how stable recovery evolves (Hser, 2007a). The 'maturing out' hypothesis states that users grow out of addiction as they mature with age. This hypothesis was proposed by Winick (1962; cited in Searby, Maude, and McGrath, 2015), who maintained that over two-thirds of narcotic users achieved and maintained abstinence as a result of the resolution of social and vocational pressures present during adolescence and early adulthood. Winick's maturing-out hypothesis was a dominant school of thought for some time in addiction treatment and research (Hser, 2007a). This was problematic in the sense that service provision at that time shifted to the targeting of younger users and thereby neglected those failing to 'mature out' (Anglin et al., 1986), arguably a significant proportion of drug users, in reality. The substitution hypothesis argues that one addiction is simply replaced by another (Vaillant, 1966). Other studies have further identified factors that may be related to relapse (Hser, 2007a).

The Relapse Prevention (RP) model proposed by Marlatt and Gordon (1985) suggests that both immediate determinants (e.g., high-risk situations; coping skills; outcome expectancies; and the abstinence violation effect – self-blame, guilt, loss of perceived control – associated with relapse) and covert antecedents (e.g., lifestyle factors; urges; and cravings) can contribute to relapse (Marlatt and Gordon, 1985). The RP model incorporates numerous specific and global intervention strategies that allow therapist and client to address each step of the relapse process (Marlatt and Donovan, 2005). Specific interventions include: identifying specific high-risk situations for each client; enhancing the client's skills for coping with these situations - thereby increasing the client's self-efficacy - eliminating myths regarding the drug's effects; managing lapses; and restructuring the client's perceptions of the relapse process (Marlatt and Donovan, 2005). Global strategies comprise a process of 'balancing' the client's lifestyle (and facilitating him or her to develop more positive addictions – i.e., a form of behavioural activation); employing stimulus control and urge-management techniques; and developing relapse road maps to facilitate awareness during the recovery journey. Based on a cognitive-behavioural framework, this approach is

widely employed in addiction treatment services and the focus of substantial research (Marlatt and Donovan, 2005).

Edwards (1987 cited in Mitcheson et al., 2010) highlighted the importance of taking in to account the individual idiosyncrasies of the relapse trajectory - perhaps reinforcing that the recovery journey is personal and individual, and as such treatment must be person-centred. Of further relevance is treatment context: giving up a substance is clearly correlated with the environment the individual operates within (Allsop et al., 1997). Here the argument is that this is of greater pertinence than simply equipping an individual to cope in a debilitating environment (Allsop et al., 1997). Key predictors of recovery include active engagement in the community, and immersion in peer support groups and activities (Best and Lubman, 2012). Recovery requires a parallel process approach: enabling and supporting individual recovery journeys; while creating environmental conditions that enable and support a 'social contagion' of recovery (Best and Lubman, 2012). Here the concept of recovery is transmitted through dedicated, supportive social networks and recovery groups (Best and Lubman, 2012).

Recovery from addiction is conceived as a process of change through which an individual achieves abstinence and improved health, wellness, and quality of life (Sheedy and Whitter, 2009). Sheedy and Whitter (2009) developed 12 guiding principles of recovery (as identified by the patients in their study) and are conceived as follows: there are many pathways to recovery; recovery is self-directed and empowering; recovery involves personal recognition of the need for change and transformation; recovery is holistic; recovery has cultural dimensions; recovery exists on a continuum of improved health and wellness; recovery emerges from hope and gratitude; recovery involves a process of healing and self-redefinition; recovery involves both addressing discrimination, and transcending shame and stigma; recovery is supported by peers and allies; recovery involves (re)joining and (re)building a life in the community; and recovery is a reality. A critical way to overcome the stigma of addiction is to convey the message that recovery is a reality – this can provide hope to both affected individuals and their families, and can inform the general public and provide realistic expectations for stakeholders (Laudet, 2007).

Neale, Nettleton, and Pickering (2012) describe that although the term 'recovery' is sometimes used interchangeably with the term 'abstinence', it is generally accepted that recovery is not simply a matter of taking or not taking drugs. It is rather about drug users achieving benefits in a wide range of life areas, including their

relationships, housing, health, employment, and offending (Neale, Nettleton, and Pickering 2012). Recovery will manifest differently for each individual user, but should enable individuals to have aspirations, feel that they are part of society, and lead more fulfilling lives (Neale, Nettleton, and Pickering, 2012). Neale et al. (2012) argue that despite some useful attempts at defining recovery, unanswered questions about the concept remain – such as: What is the precise meaning of the concept; How should recovery be measured? Can individuals ever be 'recovered' or are they only ever 'in' recovery? When does recovery start and end? Who can define whether or not someone is in recovery? Does recovery require complete abstinence from all drugs, including prescribed drugs and tobacco? And must recovery be voluntary? (Neale, Nettleton, and Pickering, 2012).

Neale et al. (2012) interviewed 40 heroin users in recovery and outlined a number of key themes derived from this work. Narratives focussed on various dimensions in the recovery journey – such as: the initial consideration of recovery, perhaps analogous with the contemplation stage of the Transtheoretical Model of health behaviour change (Prochaska and DiClemente, 1983); treatment experiences (of varying types; from abstinence, to Opiate Substitution Treatment (OST) and detox and rehabilitation, and included peer support); the coming off of drugs stage; the rebuilding of relationships; the experience of emotional changes; bodily adjustments; health and illness; self-care; housing and living arrangements (including financial arrangements); filling the void; and thinking about the future (including: hopes; goals; fears; wanting to be normal; change and growth). These narratives arose from interviews with four types of individual in recovery: those in OST; 'ex-users'; residential detoxification patients; and those who had detoxed. Aside from demographics, and these four basic typology descriptors, more specific information about patients, their history or current situation is not elaborated upon.

Best and Laudet (2011) outline the inspiring idea that recovery is contagious; that is, it has a positive impact on both families and communities, in addition to the impact felt by the individual undergoing the process. Best and Laudet (2011) usefully differentiate the concept of recovery in addictions, from that of recovery in the mental health field. Best and Laudet (2011) outline that in the mental health field the focus is mostly on the quality of life dimension. By contrast, Best and Laudet (2011) outline the definition of recovery in the addictions by the UK Drug Policy Commission (2008, p.6) as "voluntarily sustained control over substance use which maximises health and wellbeing and participation in the rights, roles and responsibilities of society." Whilst this definition encompasses wellbeing and quality of life, it also includes some degree

of community engagement or citizenship, and a measure of sobriety (Best and Laudet 2011).

Best and Laudet (2011) outline that recovery encompasses a sense of empowerment; and focus on central ideas of aspiration, choice, hope, and freedom, and notably, are experienced rather than diagnosed. Best and Laudet (2011) also distinguish that recovery occurs in real life settings rather than in the rarefied surroundings of clinical settings; and finally that recovery is a journey rather than an end state.

This introduces the idea of recovery capital. Best and Laudet (2011) describe this as the resources the individual has available to him or her to facilitate this journey, or process. Best and Laudet (2011) describe the four elements of recovery capital. Firstly, the social; involving relationships and groups. This provides support but also entails commitments. The second is physical capital. This encompasses tangible assets, such as property, which may facilitate recovery options, such as moving away from drug using communities and dealers. The third is human capital. This is multi-faceted and includes skills, positive health, aspiration, and hopes. High educational attainment and intelligence are valuable advantages for the problem-solving required during the journey of recovery. The final aspect is cultural capital; this includes beliefs, values and attitudes. It also links to the social conformity of prevailing social behaviours (Best and Laudet, 2011). Recovery capital gives rise to recovery champions, who are generally well-connected and charismatic figures within a recovery community. They are prominent figures of success and allow the spread of recovery capital, for example, through social learning (Best and Laudet, 2011).

Laudet (2007) argues that recovery goes well beyond abstinence, and describes it as a bountiful “new life,” an ongoing process of growth, self-change, and a reclaiming of the self. That the concept is seen by this researcher as an ongoing, evolving process is interesting, implying that the individual remains in recovery through the life-course. To this end it is worthwhile exploring the conception of recovery with specific treatment samples and addiction types, to enable a person-centred modality of support.

As outlined in The National Treatment Agency (2012) report: Medications in Recovery: Re-orientating Drug Dependence Treatment (National Treatment Agency 2012) the question of how many people with heroin dependence recover remains difficult to answer, since few research studies have followed-up with patients into their fifth and sixth decade. NTA (2012) describe that the small pool of longitudinal research encompasses research conducted at different times, in different cultures

and using different methods. Methodologically these studies are prone to selection and differential bias and attrition at follow-up (NTA, 2012). NTA (2012) also outline that a single episode of treatment is very unlikely to achieve lasting abstinence. NTA (2012) outline that the norm is for an individual re-enter treatment a number of times before achieving remission. Anglin et al. (1997) and Hser et al. (1997) report that three to four treatment episodes are most likely. Positively, Moos (2003) proposes that a specific focus on recovery may improve treatment effectiveness, by virtue of the creation of therapeutic goals. Further, these goals must be specific and individualised (Moos, 2003).

NTA (2012) outline various factors that encompass the concept of recovery. The first is recovery support and this encompasses the need for recovery capital (as outlined above), particularly for those with low levels of support, peer-role models, support from other services, and family support. Housing support is identified as a further area of importance, including working with local housing partnerships and planners. The encouragement of well-being is highlighted, such as making social connections, being active, and continuing to learn. Post-treatment support is also highlighted, and the level of intensity of this support is dependent on individual levels of recovery capital.

NTA (2012) also makes specific recommendations with regard to components of effective OST. These encompass good leadership (Ball and Ross, 1991); motivated staff with belief in the treatment they are offering (Rogers, 1957); good retention to treatment (Zhang, Friedmann, and Gerstein, 2003); a good programme of psychosocial support (National Institute for Health and Care Excellence 2007b) and adequate dosage for Opiate Substitution Treatment programmes (NTA, 2012). What is unexplored is the relative contribution of each factor of importance in treatment engagement and outcome.

1.3.1. Recovery: Policy and practice issues

As also discussed below in section 1.5: Abstinence versus maintenance, one of the central debates concerning the definition of recovery stems from the abstinence-orientated ethos versus the agonist-maintenance ethos within the addictions field and treatment system. This discussion has relevance to the debate on what constitutes recovery. Uchtenhagen (2013) outlines that recovery is used to describe a rehabilitation process, as well as a socialisation process to good citizenship. The

abstinence ethos is perceived as vital for health and social improvement (demonstrated through the term 'abstinence-based therapy'), or as a final objective ('abstinence-oriented therapy') (Uchtenhagen, 2013). Maintenance therapy may be viewed as a temporary approach to engage those users who are hard to reach ('maintenance to abstinence') or as a treatment of a chronic condition ('unlimited maintenance') (Uchtenhagen, 2013). Uchtenhagen (2013) describes this opposition as crude, yet importantly encapsulates that it represents an age old question – 'what are the goals of addiction treatment?' (Uchtenhagen, 2013). Uchtenhagen (2013) illustrates that both approaches (e.g., drug-free residential approaches and agonist maintenance treatment programmes) have long-term positive outcomes when provided in regular services which adhere to routine practices in indication and delivery. Uchtenhagen (2013) concludes that in our epoch of individualised healthcare there is no argument against having multiple evidence-based treatment routes, which incorporate individual tailoring to the client's needs and risks.

Entering and remaining in treatment, finishing a course of opioid substitution treatment (OST), and exiting structured treatment services are all pertinent indicators of an individual's progress in recovery, however, they are not in and of themselves definitions of recovery (NTA, 2012). In their report 'A vision of recovery' the UKDPC (2008) Recovery Consensus group (comprising leading experts in the field of addictions) outline that because there are individual perceptions amongst individuals in recovery about what recovery is, the consensus group's focus was on recovery 'process', rather than a specific end point that attempted to capture the diversity of recovery experiences (UKDPC, 2008). For some individuals in recovery, recovery is seen as an ongoing process, and in this case the individual may always consider themselves in recovery, rather than recovered, whereas others may ultimately feel that they are no longer at risk to addiction or relapse. The diversity of experience amongst those in recovery themselves, is reflected, and perhaps lies behind, the ongoing debate amongst professionals in the drugs field (UKDPC, 2008).

The UKDPC (2008) aimed, however, to develop a vision of recovery that might provide a useful and helpful focus for service development, with recovery as conceived from the perspective of an ongoing process. The recovery consensus group outlined the following key features, which are borne out of their work with individuals in recovery. Recovery was viewed as a process by which the individual accumulates positive benefits, as opposed to simply eliminating or reducing harms caused by the use of substances. Related to this, the group viewed recovery as a

process of building hope and aspiration, for the individual user, but also their families, and those who support them through treatment and support services. The group emphasised that there are a number of different types of intervention and support, that there was no ‘one size fits all’ programme. Within this conception, it was emphasised that recovery can also occur without formal external agencies (UKDPC, 2008).

The UKDPC (2008, p.5) consensus group specifically state that recovery is a process, as opposed to a single event. They emphasise that this process may take some time and effort to succeed, and that the length of time taken to do so will vary across individuals (UKDPC, 2008). Importantly, the group outline that in order for the recovery process to be lasting, it must be voluntarily sustained. It was recognised, however, that the process may be initiated or assisted by coercion and mandates as a function of criminal justice system interventions.

The UKDPC (2008) vision states that recovery does require control over substance use, however, stipulate that this is not sufficient on its own. The definition given comprises a comfortable and sustained independence from the compulsion to use illicit substances. The group acknowledge that whilst this does not equate controlled use, controlled use may still be harmful. The point is that the individual is able to make a choice to use a substance in a way that is not problematic for themselves, families, and society (UKDPC, 2008). Importantly, the ethos of the ‘no one size fits all’ approach applies to the process of independence from a compulsion to use – that is, for some, this is abstinence from problematic, or indeed all, substances. Others may be abstinent from the problematic substance, and supported in this process through prescribed medication. Others still may be able to moderate use of some/other substances, such as an occasional alcoholic beverage (UKDPC, 2008).

The UKDPC (2008) group outline that recovery maximises health and wellbeing, including both mental and physical health, to the fullest extent that it can be achieved for both an individual, and their social environment. High aspirations are reflected within this dimension, to ensure that individuals may move forward and achieve as fulfilling a life as may be possible. Finally, the group emphasise the importance of a meaningful and satisfying life. This may be individually defined, but should encompass societal roles, responsibilities and rights (UKDPC, 2008). The group recognise the stigma and discrimination that individuals in the process of recovery may face. Therefore, the UKDPC (2008) outline inclusion as part of the recovery process, in terms of (re)integration back into society and the resultant

improved self-identity – such as inclusion in family life or voluntary or paid employment.

These tenets were drawn together by the UKDPC (2008) consensus group and culminated in their vision statement for recovery:

> ‘The process of recovery from problematic substance use is characterised by voluntarily-sustained control over substance use which maximises health and wellbeing and participation in the rights, roles and responsibilities of society.’ (UKDPC, 2008, p. 6).

The NTA (2012) ‘Medications in Recovery’ report continues the recovery debate, but with important reference to opiate substitution treatment (OST). Leaving OST and structured treatment prematurely can harm individuals, especially if it leads to relapse, which may also have negative consequences for communities and society (NTA, 2012). Recovery is seen as a broader and more complex journey that incorporates overcoming dependence, reducing risk-taking behaviour and offending, improving health, functioning as a productive member of society, and achieving personal fulfilment (NTA, 2012). Crucially, these recovery outcomes are often mutually reinforcing (NTA, 2012).

The cultural and political context is deemed important. With reference to the UK context, the NTA (2012) ‘Medications in Recovery: Re-orienting Drug Dependence Treatment’ report outlines that previous government drug strategies focused on reducing both crime, and drug-related harm to public health. In this case, the benefit to society accrued from people being ‘retained’ in treatment programmes, as much as just the completion of them. However, it is argued that this reinforced a culture of commissioning and practice that gave insufficient primacy to an individual’s desire to overcome his or her drug or alcohol dependence (NTA, 2012). The NTA (2012) report usefully emphasises that this has been particularly apparent for heroin users receiving OST, whereby the protective benefits have often become an end in and of themselves, rather than providing a safe base from which heroin users might progress towards further recovery (NTA, 2012).

More specifically, the NTA (2012) justly outline that well-delivered OST programmes provide a platform of safety and stability that protects individuals, and creates the time and space for them to progress in their individual recovery trajectories. Thereby, OST has an important and appropriate role within recovery-orientated systems of care. The drug strategies clearly demonstrate that medication-assisted

recovery can and do occur (NTA, 2012). However, the NTA (2012) report emphasises the really important need to ensure that OST is the greatest platform it can be, but with equal focus upon the quality, range and purposeful management of the broader care and support system it fits within (NTA, 2012).

As with the UKDPC (2008 report, the NTA (2012) report also outlines the importance of acknowledging individual differences in levels of 'recovery capital' (Best and Laudet, 2011). Specifically, some heroin users in treatment may stabilise and leave treatment quickly, whereas many others have long-term problems and complex needs, meaning their recovery may take much longer, and that they require help to build their recovery capital (NTA, 2012). Treatment administered over such timescales must maintain their recovery orientation (NTA, 2012). Importantly, the NTA (2012) highlight that prematurely ceasing an individual's OST against their will is an externally imposed action, thereby it has no meaning to the individual, and in this case, gains made in recovery may be lost or regressed (NTA, 2012). The need instead for clear, ambitious, co-collaborated goals with agreed timescales are key components of effective individualised treatment (NTA, 2012).

An aspect of relevance to the current thesis's aims outlined by the NTA (2012) is the importance of an exit strategy from OST. NTA (2012) emphasise the need for visible exits from treatment, as soon as clients enter treatment. The importance of this is rationalised as giving patients enough information to understand the components of a treatment trajectory, and the visibility of other patients who have successfully exited treatment, through use of both recovery mentors and communities. An interesting further recommendation is the implementation of recovery check-ups for those who have left treatment, and the availability of a rapid re-entry process back into treatment, if necessary. NTA (2012) make the recommendation that clinicians and service leads should audit and consider changing the balance between the promotion of overcoming dependence and promotion of reduction of harm. Within this recommendation, the need for informed choice, with pertinence to individual situations, is emphasised. These recommendations are framed as recovery-oriented treatment systems and services (NTA, 2012) and align with the 2010 Drug Strategy (HM Government, 2010). NTA (2012) make the point that neither medication alone, nor abstinence alone, is likely to be sufficient to support an individual to achieve recovery. These facets of effective recovery are concomitant.

In terms of implication for practice, the UKDPC (2008) make the important point that their overarching definition of recovery may assist substance misuse professionals

to maintain an overall vision of recovery, with an ethos of multi-service, multi-disciplinary and collaborative working. Thereby, multi-service professionals and teams can contribute to the recovery vision, as opposed to seeing one primary area of intervention as the only way. The UKDPC (2008) outline that the separate tenets of their definition of recovery can be viewed as a continuum along which progress can be charted. They assert that their single definition may facilitate a system that works together as required, in order to support the recovery process for individuals (UKDPC, 2008).

With reference to the abstinence versus maintenance debate, drug-free programmes may not be automatically recovery-orientated, simply because of their abstinence ethos, and correspondingly, maintenance programmes do not automatically negate a recovery orientation, simply because they are characterised by medication (UKDPC, 2008). The UKDPC (2008) call for an identification of what characteristics make a service and the wider system recovery-orientated, irrespective of specific modalities operated. The need for additional instruments that can measure recovery and improve service provision is also called for (UKDPC, 2008) and Uchtenhagen (2013) outlines that structured assessment using appropriate brief wellbeing measures could facilitate discussions about broader life needs. If may be argued that if these measures are not prioritised by commissioners, and utilised by services, then progress in recovery will continually be perceived by services, policy makers and researchers as simplistically constituting only a reduction or cessation in use of the problematic substance.

1.4. Opiate Substitution Treatment

Opioid Substitution Treatment (OST) supplies illicit drug users with a replacement drug - a prescribed medicine such as methadone or buprenorphine - which is usually administered orally in a supervised clinical setting (Kermode et al., 2011). Substitution treatments for opioid dependence, mainly utilising methadone concentrations, have a reasonable level of availability and acceptance throughout Europe (EMCDDA 2000). Methadone is a long-acting orally administered drug, for the shorter-acting heroin that is usually injected (Dole and Nyswander, 1965) and the effectiveness of this regimen has been consistently demonstrated (Daulouède et al., 2010; Mattick, Ali, and Lintzeris, 2009). Additionally, evidence of treatment efficacy has been assessed in multiple domains, including physical and mental health, associated risks, delinquency, compliance with therapy, use of illicit drugs, and quality of life (Farrell et al. 1994; EMCDDA 2000; Ward, Hall, and Mattick, 1999). Prior to the Dangerous Drugs Act (1967), methadone characterised prescribing and treatment practices with heroin users in Britain (Mccusker and Davies, 1996). Traditional opiate maintenance treatments (such as methadone and buprenorphine) are effective for a high proportion of patients by reducing or eliminating the need for illicit injecting, thereby reducing associated health and social problems and providing a greater chance for stability.

1.4.1. The aim of Opiate Substitution Treatment

Reduction or cessation of illicit injecting may reduce the user's engagement with the drug subculture, thus the likelihood of committing crime, and resultant involvement in the criminal justice system. Through attendance at community treatment centres, the individual undergoes regular health checks and attends regular meetings with key-workers or case-managers, where progress and concerns can be addressed. Other issues such as health and housing may be monitored, and referrals made to appropriate agencies. Treatment centres often offer psychosocial therapies to facilitate recovery from illicit drug dependence.

1.4.2. Opiate Substitution Treatment failures

Whilst there is a good evidence base on the effectiveness of methadone, demonstrated by reduction in major risks associated with untreated opioid dependence (Farrell et al., 1994; Ward, Hall, and Mattick, 1999; Mattick et al., 2009), a proportion – 15-25% (Johnson et al., 2000); and at least 5-10% (Strang et al., 2010) - of entrenched heroin users fail to benefit in this way from oral methadone treatment (Oviedo-Joekes et al., 2009). Failure to benefit from treatment has typically been defined as treatment drop-out or continued use of illicit opioids through maintenance treatment (Strang et al., 2010; Oviedo-Joekes et al., 2009). Additionally, many patients demonstrate ambivalent attitudes towards methadone treatment (Dürsteler-MacFarland et al., 2010).

1.5. Abstinence versus maintenance treatment

As in other European countries, the public health problem associated with heroin misuse has led to a change in treatment philosophy (Romo et al., 2009). The focus has moved away, somewhat, from pursuing abstinence as a priority, and towards harm minimisation as a more fundamental and overriding aim (Mccusker and Davies 1996; Romoet al., 2009). That abstinence is no longer viewed as the ultimate priority attunes well with the discourse on the concept of recovery, such as the pertinence of reintegration and 'filling the void' with meaningful activities (Neale et al., 2012).

It has been suggested that social and clinical considerations mediated this change (Wilks, 1989). These included the need to limit the growing illicit market in heroin, fed by surplus National Health Service (NHS) supplies (Mccusker and Davies, 1996). Additionally, Wilks (1989) suggested that the idea that the user who, having attained a heroin prescription, could continue to lead an otherwise conventional life, arose in the context of a middle-class and often professional heroin user of the past. The younger, recreational drug users who emerged through the 1960s tended to lead more chaotic and deviant lives irrespective of their drug use (Mccusker and Davies, 1996). The need to illustrate the history and background of the user in the specific recovery context is pertinent.

Whilst Methadone Maintenance Treatment (MMT) is known to improve health and reduce illicit heroin use, infectious-disease transmission, and overdose death (Ward, Hall, and Mattick, 1999) its effectiveness is compromised if low maintenance doses of methadone (<60 mg) are administered and patients are pressured to become prematurely abstinent from methadone (Ward, Hall, and Mattick, 1999).

Guidelines on prescribing have attempted to establish recommended practice, but in reality, there is much variation in clinical practice (Witton, Keaney, and Strang, 2005). For example, daily doses of methadone may vary from 5mgs to an extreme of more than 1000mgs daily (Witton, Keaney, and Strang, 2005). As an alternative to MMT, other oral opioid agents (e.g., naltrexone, buprenorphine) may increase patient choice and avoid some of the more unpleasant aspects of MMT (Ward, Hall, and Mattick, 1999). For the archetypal dependent heroin user, periods of daily heroin use are interrupted by episodes of detoxification drug treatment, and imprisonment for drug-related crimes (Ward, Hall, and Mattick, 1999). The proportion of people who achieve persistent abstinence from opioid drugs after any treatment is marginal, though it does gradually increase with age (Ward, Hall, and Mattick, 1999). The low rates of abstinence after treatment are unsurprising given that most dependent heroin users enter drug treatment under pressure from family and friends, or because they have been charged with a drug or property offence (Ward, Hall, and Mattick,1999).

1.6. Injectable Opiate Treatment

Mars (2003) outlines the approach that operated from the 1920s to the 1960s which came to be known as the ‘British System’ of opiate prescribing for heroin dependence. Specifically, the Government appointed Rolleston Committee (Rolleston, 1926) advised that it was valid medical practice to administer heroin to individuals for the maintenance of their addiction if such maintenance enabled them to lead "a normal, useful life." Within this system, medically prescribed maintenance doses of opioids in cases of intractable heroin dependence were legitimised where normal functioning was considered otherwise impossible (Berridge and Mars, 2004). Bennett (1988) asserts that the word "system" was perhaps too strong, connoting organisation, planning, and directives. It was said that, at that time, British drugs policy actually evolved out of practice rather than planning and tended to be directed only by loose guidelines (Smart, 1984; Bennett, 1988).

The practice began in the late 1950s and early 1960s when individual psychiatrists in the United Kingdom started to prescribe heroin to heroin users for maintenance purposes (Strang et al., 1994). The so called 'British System' operated for a small number of heroin users and involved detoxification or maintenance medication of morphine or heroin (Mars, 2003). Initially only available through private healthcare services these treatment approaches came to be available through NHS practitioners (Mars, 2003). As reported numbers of drug users increased, treatment was removed from primary care and became available through new specialist drug treatment centres (Mars, 2003). These clinics began by prescribing injectable heroin and methadone and eventually came to prescribe oral methadone, as advocated by a number of leading London psychiatrists (Mars 2003). Moreover, prescribers of heroin fell in the minority, and the practice was contested by the medical colleagues of those who continued to do so (Mars, 2003).

The practice has been part of the British response to opiate dependence since its validation by the Rolleston Committee in 1926 (Rolleston, 1926). Until 1968 any doctor could prescribe diamorphine to opiate-dependent drug users for the treatment of opiate dependence and there was no specific system or legal dose limit (Metrebian, Carnwath, Stimson, & Storz, 2002). Before 1960 the extent of the opiate problem in the United Kingdom was very slight (Strang & Gossop, 1994), then in the 1960s there was an increase in the number of heroin users who used prescribed pharmaceutical diamorphine obtained from the illicit market (Metrebian et al., 2002). This came almost exclusively from the diversion of medical prescriptions to heroin dependent individuals (Stimson & Oppenheimer, 1982). The small increase in illegal drug use in Britain in the 1950s stimulated a process of rapid policy reconsideration and change which has persisted to the present day (Bennett, 1988). Because of this change, a complicated web of legal and medical constraints, treatment methods, and information controls has evolved (Bennett, 1988). Comments in the 1980s include that drugs policy became so complex that "the task of policy commentary is more complicated (now) than at any other period in the history of British drugs policies" (Bennett, 1988; Smart, 1984).

At the height of diamorphine prescribing in the mid to late 1960s there were probably in the region of 1000 individuals receiving the drug (Thorley, Oppenheimer, & Stimson, 1977). At the same time new drug clinics were set up, mainly in London (Metrebian et al., 2002). After a few years of operation, there was a move away from prescribing diamorphine, towards prescribing injectable and oral methadone (Strang & Gossop, 1994). Historically diamorphine was dispensed for unsupervised

consumption at home; usually daily (71%), or a few times a week (60%) by a community pharmacist (94%) (Metrebian et al., 2002).

Since 1968, prescription of heroin to users was legally restricted to physicians specially licensed by the Home Office for this purpose (Hartnoll et al., 1980). All such physicians were working within hospital clinics, mostly free under the National Health Service (NHS), but at least one private clinic included licensed physicians (Hartnoll, Mitcheson, and Battersby, 1980). The supply of methadone hydrochloride was not subject to the same stringent controls (Hartnoll et al., 1980). In practice, the maintenance treatment of addiction with heroin or methadone was carried out almost exclusively in the special clinics (Hartnoll et al., 1980). The majority of clinics were in London where it was said that most users were concentrated (Hartnoll et al., 1980).

Whilst the practice was a distinct feature of the UK drug treatment system it operated on a small scale (Strang and Gossop, 1994; Mayet et al., 2010). That the practice has not been widespread has been largely due to the perceived incongruence of prescribing heroin for heroin addiction, perceived increased overdose risk, and increased costs associated with prescribing this treatment instead of methadone. For these reasons and concerns about diversion to the illicit market, opiate treatment is most safely administered in controlled, clinical settings by licenced doctors (Metrebian et al., 2002). Previously there was little in the way of prescribing policy for injectable diamorphine treatment and, of particular note, no eligibility recommendations for individuals who were to receive it (Metrebian et al., 2002).

One striking feature of the British approach is that it allowed doctors, in their role as prescribers, such great autonomy. It was only in 1984 that the first prescribing guidelines, The Guidelines of Good Clinical Practice, were published by the Department of Health Medical Working Group on Drug Dependence (1984), and these were recently revised (Department of Health (England) and the devolved administrations, 2007). This more comprehensive document targets general practitioners (GPs) and emphasises the importance of good assessment, shared-care of patients by general practitioners and specialist services, supervised ingestion (where available), and training (Witton, Keaney, and Strang, 2005). However, these guidelines have no defined legal position, are not themselves regulations, and the prescribing doctor remains essentially autonomous (Witton, Keaney, and Strang, 2005).

1.7. Supervised Injectable Heroin

In Switzerland in the 1990s Professor Ambros Uchtenhagen and colleagues established a new practice of providing injectable heroin treatment under medical supervision with additional psychosocial services (now referred to as supervised injectable heroin; SIH). Clinics were open 364 days per year and patients had to attend once or twice per day for medically supervised injections. It is commonly agreed that the procedure of these clinics (which preceded the subsequent European and North American trials, and which are discussed in more detail in chapter 2) make this a unique treatment regimen. The first studies to mark the beginning of scientific interest in SIH treatment were conducted by Uchtenhagen et al (1999) in Switzerland between 1994 and 1996. Individuals participating in these studies formed a large cohort receiving heroin treatment, and which provided evidence for the potential effectiveness of this approach to treatment. Evidence was limited, however, by the lack of a control group. The Uchenthagen (1999) studies paved the way for scientific interest in this new approach, through developing SIH treatment and conducting the first evaluation of this unique treatment (Uchtenhagen et al., 1999).

Heroin users may fail in oral substitution programmes because they still need the “high” produced by heroin injection or the ritual of preparing and injecting the drug (Perneger et al., 1998). Programmes which provide intravenous heroin – in structured, monitored settings - may be effective for such individuals (Perneger et al., 1998) and thereby reduce the need for illicit injecting and associated health and social costs. Injectable opiate treatment by its very nature attracts attention and controversy, therefore a more complete picture of what we know about it is required (Strang, Groshkova, and Metrebian, 2012).

Seven international trials (in Germany: Haasen et al., 2007; Spain: March et al., 2006; the Netherlands: Rehm et al., 2001; Switzerland: Perneger et al., 1998; Canada: Oviedo-Joekes et al., 2009; the UK: Strang et al., 2010; Belgium: Demaret et al., 2015) followed this work and sought to investigate the effectiveness of SIH as a second line treatment for entrenched opiate users for whom oral methadone had repeatedly failed, using a Randomised Controlled Trial methodology. Demaret et al. (2015) then subsequently took place in Belgium. The details of these trials are outlined in detail in the literature review in chapter two.

The five randomised trials (mentioned above) of more than 1000 patients (conducted prior to the UK RIOTT trial and before Demaret, 2015) illustrated that treatment with

heroin has substantial benefits over oral methadone for individuals who have not responded to previous or continuing methadone treatment (Strang et al., 2010). However, these five studies relied on self-reported primary outcomes and used various complex measures of benefit, leading to the report in a Cochrane review (Ferri et al., 2005) that outcomes were not comparable between the studies and, therefore, effectiveness remained uncertain (Strang et al., 2010; Ferri et al., 2005). Furthermore, only two studies had used a control group of optimised doses of oral methadone (Strang et al., 2010).

Strang et al. (2010) also specifically outline that in the UK, use of injectable methadone needed assessment since, for several decades, this treatment was more common than injectable heroin for the treatment of addiction. These arguments and critique demonstrated the need for the UK RIOTT trial, which utilised: a control group of injectable methadone, optimised oral methadone dosing, urinalysis as primary outcome variable, and a battery of widely used measures of physical and mental wellbeing as secondary outcome variables.

The five trials prior to the UK RIOTT trial used a fully supervised approach to heroin treatment, in which all heroin doses were administered under strict supervision in clinics that were open 365 days per year for the treatment of the most entrenched heroin users (Uchtenhagen et al., 1999). This model ensures community safety and protection against diversion of supplies to the illicit market (Strang et al., 2010). Similar supervised injecting clinics were established in England after publication of the UK Government's Updated Drug Strategy, which stated that "The administration of prescribed heroin for those with a clinical need will take place in safe, medically-supervised areas with clean needles. Strict and verifiable measures will be in place to ensure there is no risk of seepage into the wider community." (Home Office, 2002a).

The 2003 NTA guidance recommends that injectable maintenance treatment is most appropriate for long-term dependent heroin users who have not responded to oral maintenance treatment (National Treatment Agency for Substance Misuse, 2003) (National Treatment Agency for Substance Misuse, 2003). Where injectable heroin and methadone maintenance prescriptions are provided as part of a comprehensive treatment programme, both may have beneficial effects on health, social functioning and crime reduction (National Treatment Agency for Substance Misuse, 2003). The National Treatment Agency (2003) publication makes the worthwhile point that since

the majority of evidence relates to patients who have “failed” oral programmes, there is a need to probe the cause and definition of “failure”.

1.8. The UK Randomised Injectable Opiate Treatment Trial

The UK Randomised Opiate Treatment Trial (RIOTT) trial was funded by the Community Fund (Big Lottery) research section, through the charity Action on Addiction. Chronic heroin dependent patients (aged 18–65 years) receiving conventional oral maintenance treatment (for more than six months) were eligible for the study if they were continuing to inject street heroin regularly (for more than 50% of days in the preceding 3 months). Patients were enrolled from the local catchment areas of supervised injecting clinics in south London, Darlington, and Brighton. Patients were enrolled and screened for eligibility by the doctor or lead nurse at the study site, and patient eligibility was double-checked by a research worker. Patients provided written informed consent after they were screened for eligibility and prior to randomisation. Ethical approval was received from the London Multi-site Research Ethics Committee. The trial was overseen by a trial steering committee, and by a data monitoring and ethics committee, comprising a statistician and two consultant addiction psychiatrists (Strang et al., 2010).

The UK RIOTT trial (Strang et al., 2010) assigned 127 heroin using patients to one of three randomised conditions for a six month period: injectable heroin treatment (N=43), injectable methadone treatment (N=42) and oral methadone treatment (N=42). Patients completed six months of assigned treatment and outcomes were documented at baseline, three months and six months. After this time, and in consultation with trial consultants, patients could choose to move to another treatment condition if they felt, or if it was indicated, that they would benefit from this change – e.g., if illicit use persisted. Primary outcome was use of illicit heroin (through self-report and urinalysis). Secondary outcomes included use of crack (self-report), quality of life (measured through the EQ-5D and Short Form; SF36 questionnaires), social functioning (as measured through the drug use section of the Opiate Treatment Index; OTI), use of alcohol, use of benzodiazepines, and engagement in crime.

Drug treatment and dose changes were also tracked. Following the six month RCT, outcome measures continued to be collected for a total of three years. Outcomes at 6 months were published in a paper by the RIOTT research team in 2010 and two year outcome data has been prepared. Outcomes at six months showed that 80% (n=101) patients remained in assigned treatment: 81% (n=34) on injectable methadone, 88% (n=38) on injectable heroin, and 69% (n=29) on oral methadone. Patients on injectable heroin were significantly more likely to have achieved the

primary outcome, which was reduction in use of illicit heroin, than were those on oral methadone (66% [n=28] *versus* 19% [n=8], p<0·0001). The difference between injectable methadone (30% [n=14]) and oral methadone was not significant (p=0·249). A significant difference between injectable heroin and injectable methadone was recorded (p=0·002), however the study was not powered for this comparison; differences were evident within the first six weeks of treatment (Strang et al., 2010), p. 1885.[1]

1.9. Current international prevalence and policy

Strang et al. (2012) illustrated that the number of people receiving SIH treatment was changing, but that – at that time - there were approximately 1000 SIH patients in the European Union (EU) and a further 1400 in Switzerland. In the United Kingdom, the medical use of heroin has been used in clinical practice since it was first synthesised — both for the relief of terminal pain and for the treatment of opioid dependence - even though it has rarely been used in recent years for the treatment of addiction (Strang et al., 2012). In recent years, four other countries (Denmark, Germany, the Netherlands and Switzerland) have granted approval for diamorphine to be used as a medicinal product for the specific indication of treatment-refractory heroin users (Strang et al., 2012). In these countries, SIH clinics are now integrated into local addiction service networks and appear to successfully deliver important benefits to a small number of severely affected chronic heroin users (Strang et al., 2012). In Spain, one SIH clinic continues to provide treatment to patients enrolled in their trial, now operating under legal exemption, and Canada has approved diacetylmorphine for research trials only (Strang et al., 2012).

[1] The following information is taken from the description of the RIOTT trial by Strang et al. (2010) and more detail will be described in chapter 2; literature review.

1.10. Government Drugs Policy

From a policy perspective the thesis is topical; in May 2012 the Department of Health (2012) stated that as a result of the studies in the UK and overseas, IOT is now evidenced as a clinically effective second line treatment for a small group of people who have repeatedly failed to respond either to standard methadone treatment or to residential rehabilitation (Department of Health, 2012). In 2012, the Department of Health (2012) committed six million pounds into continuing IOT for relevant patients until 2015. In March 2015 all remaining IOT clinics closed down following the end of central funding and the reluctance of local funders to meet the treatment cost (John Strang, personal communication, January, 2016). The distinctive feature of this treatment is the complete supervision of all injectable doses, between one to three times daily, every day of the year. More generally, the 2010 Drug Strategy (the year of the publication of the RIOTT trial primary data) placed its predominant focus upon recovery and building recovery in communities. The strategy emphasises working with people who want to take the necessary steps to tackle their dependence on drugs and alcohol, and proposes a route out of dependence by putting the goal of recovery at the forefront (HM Government, 2010). The policy context, and IOT generally, is explored in more detail in chapter two.

1.11. Thesis Aims and Objectives

1.11.1. Thesis aims

Overall the thesis will contribute to the scientific understanding of injectable opiate treatment, and specifically, determine the role of IOT in the patient's overall journey of recovery.

The primary aim of the research is to determine the long-term treatment trajectory and to describe the experience of patients receiving injectable opiate treatment (IOT).

Study one determines the long-term treatment trajectory of patients receiving IOT and study two describes the experience of patients receiving injectable opiate treatment.

1.11.2. Study one aim

To determine the long-term treatment trajectory of patients receiving IOT.

1.11.3. Study one objectives

1. To illustrate broad patient outcomes over 36 months for those receiving Injectable Opiate Treatment (IOT);
2. To determine the length of time patients receive IOT and whether they move away from IOT to oral treatment routes or abstinence;
3. To determine treatment outcome (including drug use status, health status, social functioning status, discharge status) of patients receiving IOT (SIH and SIM) long term;
4. To describe IOT received (including mean dose, number of injections per day);
5. To determine whether IOT treatment duration affects treatment outcome status (including drug use status; alcohol use status; health status and social functioning status).

1.11.4. Study two aim

To describe patients' experiences of injectable opiate treatment.

1.11.5. Study two objectives

6. To formulate and describe patient typology (including treatment allocation and discharge status) for each patient interviewed;

7. To describe patients' drug use and treatment histories;

8. To determine patients' goals for, motivations, and expectations of IOT

9. To explore patients' experience with IOT

10. To explore patients' satisfaction with IOT;

11. To explore patients' views on impact of IOT;

12. To explore patients' views of, and goals for, their recovery.

Objectives 7-12 will be achieved through qualitative interviews with IOT patients and analysed using thematic analysis. Objective 6 will be achieved through formulation, development and illustration of typology for each patient; a chapter in its own right (chapter 5), and referenced in qualitative analysis. The literature review aims to provide the historical context to IOT, including longitudinal research, and both quantitative and qualitative research describing patients' perceptions and experiences.

1.12. Thesis structure

Chapter two includes a full literature review of the topic, which introduces OST, IOT, IOT worldwide, longitudinal IOT research, qualitative research in IOT, and patients'

perspectives. Chapter three is the methodology chapter; and outlines methodologies for study one (longitudinal quantitative outcomes); and study two (qualitative patients' experiences and perceptions). Chapter four describes the formation of patient typologies, which provide the context for the subsequent qualitative findings; and chapter five outlines the findings from study one; a description and mapping of longitudinal quantitative outcomes. The following six chapters are qualitative findings, encompassing patients' experiences and perspectives on IOT and their recovery in this context: chapter six: heroin use history; chapter seven: referral to IOT; chapter eight: experience of IOT; chapter nine: impact of IOT; chapter ten: recovery; chapter eleven; current situation and goals for the future. Chapter twelve concludes the thesis, presenting a general discussion of the two main studies' findings. The discussion takes into account the implication of the thesis' findings for future research, clinical practice and drug policy.

The patients' medical and research notes were reviewed and assimilated as individual case-note reviews; these data are illustrated in the appendix. The full appendix (including 41 patient case-studies) follows chapter 11; appendix 5.

In summary the thesis maps and describes patient trajectory and experience of longitudinal IOT, and synthesises patient accounts with a review of patient case-notes. Patients' experiences and perspectives are interpreted in the context of patient typologies, created specifically for this purpose. This allows interpretation of the results in the context of the trajectory through the RIOTT trial. In so doing, the thesis contributes to the overall debate on the role of injectable opiate treatment in the individual patient's journey of recovery, and in the British treatment system. Overall the thesis provides a more complete picture of the role and scope of this unique treatment - and is the first in a UK context - than has been published to-date.

Chapter 2 – Literature Review

The literature review is a narrative literature review outlining and evaluating research conducted in the field of IOT to date which led to the development of the research projects and methodology within the thesis. The narrative review outlines the historical trajectory of this research area, including IOT conducted both prior to and as a consequence of the development of the specific supervised injectable heroin (SIH) trials in Europe and Canada. These studies and trials are outlined and discussed, along with secondary outcomes, longitudinal IOT research studies, research examining patients' perspectives of IOT, and qualitative research conducted in this field to date.

2. Injectable heroin treatment: A review of the context, history and evidence

2.1. Rationale for choice of literature review

A narrative literature review was chosen for several reasons. The primary reason being that there have already been several recent systematic reviews and meta-analyses conducted to date – by Strang et al. (2015); Ferri, Davoli, and Perucci (2005); Ferri, Davoli, and Perucci (2011), and the results of these will be encompassed in the following review. The largest project within the thesis is a qualitative exploration of patient experience of IOT, including patients' conception of recovery from heroin dependence in the context of an IOT trajectory. Given the less utilised – in this area - research method (qualitative interviewing) employed for the main study within the thesis, previous qualitative research in opiate substitution treatment will be outlined and discussed.

It is important to note that there is a relatively wide qualitative research literature around the experiences of injecting heroin users' experiences of conventional OST - such as methadone and buprenorphine – and that these could have formed the focus of the current literature review. This would be a useful literature review, and this literature was initially surveyed. However, it was decided that because the thesis comprises the patient's complete treatment and recovery trajectory, beginning at treatment outset through to treatment discharge (with the quantitative work providing

the context for patient's treatment and recovery journey), it was felt important to study and outline the research history of this treatment. Importantly, it was decided that because supervised injectable heroin treatment is such a unique regimen, with a relatively small number of research papers published on it worldwide, it was important to capture the specifics of this unique treatment by means of exploration of all the research that has been conducted to-date. By focussing on injectable treatment only, this provided a more concise focus to the literature review. Upon survey of the qualitative literature on users' experiences of both drug use and conventional treatment, results yielded proved too diverse for a comprehensive yet succinct review. This research will be mentioned in this narrative literature review, however (on page 94). The PhD candidate also felt that by comprehensively reviewing the literature on injectable opiate treatment, she would increase her knowledge of this research field – which was a primary research interest – and which would be beneficial for qualitative interviewing and analysis of the qualitative research sections.

Due to the breadth and pace of development of addictions research and treatment, a truly comprehensive review is probably impossible, and certainly beyond the scope (and relevance) of this thesis. The following narrative review will focus primarily on injectable opiate treatment, and aims to synthesise a focussed detail of research conducted to date, including relevant discourse, what is missing from this research pool and how the research to date necessitates the conduct of the current thesis research. The review aims to outline the history of IOT prescribing to date, highlighting areas of deficit, and hence the need for the current research projects.

2.2. Addiction and drug misuse

Drug misuse is defined as the use of a substance for purposes not consistent with legal or medical guidelines (Hoare 2009). The Misuse of Drugs Act (1971) is the main piece of legislation that still applies today covering drugs and categorises drugs as Class A, B or C. Under the Act the main offences are to: unlawfully possess a controlled substance and/or have intent to supply it; supply a controlled drug; and to allow premises you occupy or manage to be used for the purpose of drug taking (Lifestyles Statistics, Health and Social Care Information Centre, 2013).

The use of addictive substances might be viewed as just one of the contributory factors of health and social problems linked to the dependence syndrome. Addiction

is recognised as a complex interaction of multiple factors including substance, personality characteristics, environmental stressors and lack of alternative options for pleasurable experiences (Uchtenhagen, 2015). In fact addictive behaviour may be equally fostered by health and social problems, and environmental determinants have a major role in shaping health and social consequences of use (Rehm et al., 2004). Poverty, educational deficits and migration (with disruption of social networks and support) are all factors correlated with substance use and dependence, and a range of mental health problems can contribute to self-medication through illicit substance use (Uchtenhagen, 2004). Blanken et al. (2010) illustrate that heroin dependent patients are comparable to other psychiatric patients and should be treated in a similar context, but that the complicating factor is that they take an illegal drug that is traded in a criminal environment. Blanken et al. (2010) highlight that this factor hampers the recognition and fulfilment of the medical needs of heroin users.

2.3. Injectable Opiate Treatment

As introduced in chapter one the British system involved detoxification or maintenance medication of morphine and heroin. This operated for a small number of heroin users. The following section outlines research examining the effectiveness of this approach.

Mccusker and Davies (1996) conducted a quasi-experimental design using a case-control methodology, whereby heroin treatment patients already in a treatment programme were matched to methadone treatment counterparts; by variables: age, gender, heroin use history duration, and treatment duration. The study comprised n=27 heroin treatment patients and n=39 methadone treatment patients. Between group comparisons of outcomes were made at one month and then five - six months later (the longitudinal component), with between group comparisons across the two time points. Prescribing doses were described as flexible; attempting to compensate for the extent of street dosing (Mccusker and Davies, 1996). At six months 35.9% had dropped out of methadone treatment, compared to 3.7% in heroin treatment.

Heroin treatment patients met more regularly with their keyworker (regular meetings being a condition of treatment in the respective services). Here we are introduced to the idea that retention in treatment and engagement in programmes is improved through the process of heroin treatment. By the second research interview those in

the heroin treatment group were more likely to have negotiated an increase in heroin dosage and methadone treatment patients were more likely to have decreased their dosage. It could be hypothesised that respective dose reductions (methadone) and increases (heroin) contribute to drop-out and retention respectively. Yet why doses were altered is unknown. The study found that illicit drug use continued in both treatment groups; cocaine use was in fact higher in the heroin treatment group on both interview occasions. The same was found for illicit heroin, and in fact a prescription of heroin, even at high doses, did not completely eliminate use of illicit heroin (Mccusker and Davies, 1996).

Interestingly although significantly fewer numbers of the heroin treatment group (compared to the methadone treatment group) had used illegal heroin in the previous thirty days at the time of the first interview - 22% compared to 69% respectively - these between group differences were not present at the time of the second interview - 35% compared to 40% (Mccusker and Davies, 1996). Money spent on heroin was significantly reduced in the heroin treatment group compared to the methadone treatment group (£67.1 and £42.9 in the methadone group and £16.9 and £16.6 in the heroin treatment group). It was interesting that the methadone group reduced the amount spent over time, whereas heroin group changes did not meaningfully alter over time. The strength of this study was that, whilst not as scientifically robust as an RCT, it offered findings in a more naturalistic setting, perhaps more reflective of the treatment experience in clinical practice at that time. Studies like this one also paved the way for the subsequent RCTs examining IOT's effectiveness. That patients were required to meet more frequently with their keyworker if enrolled in heroin treatment is an important factor of consideration. It is reasonable to propose that an increase in intensity of therapeutic contact may have a role to play in the effectiveness of this treatment. It may be that patients are initially motivated by heroin administration, yet through the additional support required from this treatment, they are more likely to recover.

Hartnoll, Mitcheson, Battersby, Brown, Ellis, Fleming and Hedley (1980) conducted the first randomised study examining IOT's effectiveness. It should be noted, however, that this study is not classified as those that fall in to the supervised injectable heroin treatment umbrella conducted in Europe and Canada later – as these later studies employed use of a specially created supervised clinical injecting facility. Hartnoll et al. (1980) describe the set-up of heroin treatment prescribing at this time. Each clinic was led by a psychiatrist who was usually a full staff member of the hospital and likely devoted half his/her working week to this function. She/he was

assisted by other part-time clinical staff and various support staff, including nurses, social workers, and sometimes a clinical psychologist. Patients attended the clinic usually once every two weeks (sometimes weekly and sometimes less frequently). Health care and counselling was generally available, and in some cases more intensive psychotherapy. Patients did not collect prescriptions at the clinic but a prescription was mailed to a retail pharmacy, where a special arrangement was made for the drugs to be dispensed daily. Thereby, virtually all patients had take-home privileges, and only in exceptional circumstances were injections administered under medical supervision on the clinic premises (Hartnoll et al., 1980). This is a really useful historical picture and illustrates the stark difference between prescribing of the past and the new supervised approach; outlined in the next section.

In Hartnoll et al. (1980) N=96 heroin dependent patients were randomly allocated to heroin treatment and methadone treatment with outcomes monitored over a 12-month period. Patients in the study were those who had rejected methadone treatment between five and eight years prior to the study's publication. Inclusion criteria included those dependent patients who were judged to continue illicit use of heroin, had injected daily for the three months prior to trial enrolment, and who had persistently requested heroin treatment. By 12-months 74% of heroin treatment patients were retained in treatment and 29% in methadone treatment. However, interestingly, of those who dropped out of methadone treatment by 12-months, 40% were no longer using illicit opiates regularly. Slightly more (64%) heroin treatment patients continued to use illicit heroin than the oral methadone group (59%) though the difference was not statistically significant. 12% of those in the heroin group were selling some of their prescription every day. In the heroin group there was a tendency to use smaller amounts of heroin regularly, whereas the methadone group were polarised by either not using illicitly at all, or using larger amounts (Hartnoll et al. 1980) illustrating the divide of those responding effectively to methadone treatment relative to those who did not. Across both groups mean daily amounts of illicit heroin reduced from 74mg to 21mg (heroin) and 37mg (methadone) per day. There were no differences across groups in use of other illicit drugs. There were no differences in employment status, health outcomes – and controlling for baseline crime levels – criminal activity, across the two groups (Hartnoll et al., 1980), although levels of crime did decrease over the year of the trial.

It was interesting that aside from retention to treatment there were no significant differences across groups. The researchers in the Hartnoll et al. (1980) study report that they were aware that patients modified drug use prior to attending the clinic for

testing, or failed to attend to conceal illicit drug use. On this basis the researchers suggest caution over the reliability of urine drug screening as an indicator of illicit drug use (Hartnoll et al., 1980). Patients enrolled in specifically designed research trials may be more motivated to take the programme seriously and strive to reduce illicit use on this basis. Additionally, the intensity of the supervised requirement for later trials may be a key component of what supports patients in making long-term changes. This study - in the context of later open-label, supervised trials indicating superiority of heroin treatment over methadone treatment - indicates that it is not just the administration of heroin treatment that motivates positive change and wider recovery. Another subject of interest is dosage prescribed during the Hartnoll (1980) RCT – the study describes a relatively – as compared to previous British standards (Hartnoll et al., 1985) – conservative (45% were on 40-70mg of heroin treatment per day, with smaller percentages on lower or higher; 80mg+ amounts) dosage, as opposed to an unlimited supply of heroin on demand. Overall the study finds that the results do not indicate a clear overall superiority of either treatment approach. Both treatments have advantages in some areas, but at the expense of disadvantages in other areas. The approach favoured depends on the priorities assigned to the various outcome variables (Hartnoll et al., 1980). This links appropriately to the different ideas outlined in chapter one about what constitutes recovery.

The Hartnoll et al (1980) study had an interesting methodology whereby those who received methadone were 'refused' heroin treatment and offered methadone instead. The psychological impact of this event is discussed in the context of the outcomes of the study. Those who were refused heroin were more likely to be totally or almost abstinent; whilst those who did continue injecting heroin regularly were obtaining larger quantities of illicit opiates than were those given a heroin prescription. In terms of social functioning, those who were refused heroin had either stopped associating with other users and ceased drug-related activities, or they were heavily involved in the drug scene.

Hartnoll et al. (1980) suggest that refusal to prescribe heroin (and offering oral methadone instead) may be seen as a more actively confrontational policy that is associated with greater change. This directly contradicts the more contemporary notion of the importance of person-centred regimens for engagement and effectiveness, however. The need for specific RCTs assigning patients to clear treatment arms, with relative control groups is made very clear in the context of this research. Hartnoll et al. (1980) argue that the polarisation found in the OM group may be seen as divergent responses to frustrated hopes and, further, that the differences

between the two groups might have been different without those pre-existing expectations. This is of course a very different methodology to one whereby patients are explicitly assigned to a treatment, and told that they will be able to move on to heroin treatment following a six-month RCT. These contrasts illuminate the potential power of hope and expectation on retention and outcomes. These are concepts that could be usefully explored in qualitative research.

Finally, Hartnoll et al. (1980) discuss access and perceptions. Hartnoll et al. (1980) argued that in England, users may often be reluctant to approach a clinic despite the possibility of obtaining heroin. Apart from suspicion of physicians and official agencies, anxiety about the consequences of becoming "registered," and a feeling that it would be "giving up," individuals may consider that there are too many restrictions and conditions attached to receiving a prescription. This is interesting and pre-treatment perceptions (and their potential role in subsequent engagement and experience) could be usefully explored qualitatively with patients. Hartnoll et al. (1980) contrast this idea with the much greater degree of control envisaged in most American proposals at that time: comprising on-the-premises administration; participation in counselling and training; and relatively quick transfer to oral medication or into drug-free programs. Hartnoll et al. (1980) argue that these factors would almost certainly have deterred many of their sample from initially approaching the clinic. This is an assumption, and in light of the effectiveness of later RCTs – albeit in the concept of methadone maintenance being the contemporary mainstream prescribing option – may not be a correct one.

Following Hartnoll et al. (1980) and after some debate in the field, many clinics refused to prescribe injectable drugs to new patients (Mitcheson, 1994; in Strang et al, 1994; Blanken et al., 2010). In 1994 only 1–2% of the estimated 75,000–150,000 heroin users in the United Kingdom received a prescribed supply of any injectable drug, and only a small proportion of these received injectable heroin (Strang et al., 1994; Blanken et al., 2010).

In 1998 in West London (England), Metrebian et al. (1998) assessed the feasibility of prescribing injectable heroin and methadone to patients, examining associated health gains and harm reduction. This study followed a prospective observational methodology and type of injectable opiate treatment received was based on self-selection (Metrebian et al., 1998). The setting was a large west London drug treatment clinic and the sample involved N=58 patients between 1995 and 1996.

Patients were long-term opiate dependent injecting drug users, who had previous failed attempts in oral methadone treatment defined by the following: regular continued use of illicit opiates while receiving oral methadone; continuing to inject regularly; receiving doses of oral methadone in excess of 80 mg per day; and problems relating to drug use in areas of health, social functioning or crime. (Metrebian et al.,1998). The highest dose of either drug was 200mg. In this study patients were not permitted to inject on-site and in order to reduce the risk of injectable opiates being diverted to other users, patients were required to return used ampoules (batch numbers were checked) before receiving subsequent ampoules. This arguably does not ensure that medication has been taken, and not diverted, since ampoules could be retrieved following diversion. If medication is not taken and diverted, validity of results is compromised. Of note was the fact that forty per cent of the original sample were ejected from the study for violation of the study protocol.

Results showed that thirty-seven patients (64%) chose heroin treatment and 21 (36%) chose injectable methadone treatment. Fifty (86%) were retained in treatment after three months, 40 (69%) after six months and 33 (57 %) after 12 months. Among those in treatment at three months, there were significant reductions in illicit drug use, illicit drug-injecting risk behaviour, and criminal activity (Metrebian et al., 1998). There were also significant improvements in social functioning, health status and psychological adjustment. Generally, these gains were sustained between three, six and 12 months. Self-report was validated through doctors' ratings of health and urinalysis. It was interesting that injectable heroin was not always the drug of choice for these patients at this time, and it would be really useful to investigate patients' perceptions of why this may have been the case.

The Metrebian et al. (1998) study was interesting in terms of how the outcomes measured varied and developed over time. There were no significant differences in measures of health and social behaviour between three and six months, except for illicit drug injecting - which increased - although at six months it was still significantly lower than at baseline. Between six and 12 months, there were significant reductions in HIV risk behaviour, illicit drug-injecting risk behaviour and sexual risk behaviour, but no other significant changes. It would be interesting to explore patient narratives on why these changes occurred when they did – or did not.

Results of urinalysis suggest that there were (non-significant) reductions in tranquilliser, amphetamine, and cocaine use between entry and three months; between three and six months; and which were sustained between three and 12

months (Metrebian et al., 1998). Interestingly, few patients receiving injectable methadone were using illicit opiates. Measures of health and psychological status as reported by clinic doctors suggest that health and psychological well-being had significantly improved at three months and these improvements were generally sustained (Metrebian et al., 1998). Finally, long-term retention was not significant to the results of this study; there were no differences found in drug use, health or social status between those leaving treatment before 12 months and those retained (Metrebian et al., 1998).

The study was one of a number demonstrating effectiveness of IOT as a treatment option, however it had limitations – and thus helped pave the way for studies including this – by virtue of the fact that there was no control condition. It was also limited through the self-report nature of patient outcomes, the fact that patients' doses were unsupervised and therefore their medication could be diverted rather than consumed as assumed. Ultimately many clinicians became reluctant to prescribe heroin due to a lack of evidence for its effectiveness, the lack of national guidance on eligibility, dose and delivery, and concerns that it may be diverted into the illicit market and therefore seepage into the wider community (Metrebian et al., 2002).

2.4. Supervised Injectable Heroin treatment

Despite the availability and effectiveness of methadone treatment, many heroin users did not improve and failed to cease use of illicit heroin during methadone treatment. Consequently, these users are exposed to situations that pose risk to their health and lead to social exclusion (March et al., 2006). As illustrated it was this situation that gave rise to a search for treatment alternatives, such as the medical prescription of heroin, and which targeted this specific profile of users. The profile encompassed heroin-dependent individuals who had been consuming heroin compulsively for many years, for whom available treatment, including methadone, had failed, and who had severe physical and mental health problems because of their drug use (March, Oviedo-Joekes, and Romero, 2006). Arising from this need was the development of the new supervised injectable heroin (SIH) prescribing facilities.

SIH treatment emerged over the last twenty years as an important development to the earlier unsupervised heroin prescribing practices. In its present guise SIH is an intensive unique treatment programme, specifically developed as a second-line treatment for those failing to benefit from what became known as conventional OST,

such as oral methadone treatment (Strang, Groshkova, and Metrebian, 2012). That heroin treatment became supervised was a very important addition to heroin treatment prescribing, on the basis of the fact that heroin is a respiratory depressant and therefore on-hand prompt medical intervention following dosing is important (Oviedo-Joekes et al., 2009). It was envisaged that, through this supervision, the disadvantages of the earlier heroin prescribing in the United Kingdom could be avoided, whilst maintaining the benefits of it (Metrebian et al., 2015).

SIH has two specific features which distinguish it from injecting heroin treatment of the past. The first being that SIH is a second-line treatment, specifically for, and limited to, those users not responding to conventional OST or residential rehabilitation (Strang, Groshkova, and Metrebian, 2012). The second is that all doses (typically 200mg) are consumed under direct medical or nursing supervision (Strang, Groshkova, and Metrebian, 2012). The opening of the supervised clinics followed publication of the UK Government's updated Drug Strategy (Home Office 2002b), which stated that "The administration of prescribed heroin for those with a clinical need will take place in safe, medically-supervised areas with clean needles; and strict and verifiable measures will be in place to ensure there is no risk of seepage into the wider community". (Home Office, 2002b; Strang et al., 2010).

The UK Government's 2008 Drug Strategy (Home Office 2008) states that "rolling out the prescription of injectable heroin and methadone to patients who do not respond to other forms of treatment", is subject to the results from the UK RIOTT trial (Strang et al., 2010). Strang et al. (2010) subsequently recommended that supervised injectable heroin should be provided, with close monitoring, for carefully selected chronic heroin users in the UK. This model of delivery ensures protection against the diversion of heroin to the illicit market, as well as providing a greater intensity of contact with patients (Metrebian et al., 2015). Whilst the practice clearly has a useful history, more recently the stigma attached to the substance hindered the implementation of heroin treatment (Gartry et al., 2009). This stigma and negative connotation is also indicated by news articles in response to the UK RIOTT trial (Strang et al. 2010) - outlined later in the chapter - which are in the appendix (see appendix 3).

Laudet (2007) emphasises the role of the media in conveying information about drugs and addiction. Public perception may have an impact on policy in the area and vice-versa. Oviedo-Joekes (2010) outline that policy in Spain, for example, means that SIH can only be administered as part of an RCT measuring its effectiveness, thereby

deemed as ‘compassionate’ administration. The question might be – and also touched on by Oviedo-Joekes (2010) – how useful is it to demonstrate the effectiveness of a drug treatment which policy precludes administration of in clinical practice. These media messages and policy decisions will invariably increase feelings of stigma and ostracism from wider society for drug dependent individuals. This in turn may affect if and how patients engage with their recovery. Laudet (2007) also highlights the importance of considering the socio-politico context of how recovery is defined and experienced. Laudet (2007) argues that how addiction is addressed and regarded by a society may influence recovery goals, paths, course and outcomes (e.g., harm minimisation versus abstinence-based policies).

The benefit of this new approach is compliance or adherence to treatment, monitoring, safety, and prevention of any possible diversion of prescribed diacetylmorphine to the illicit market (Strang, Groshkova, and Metrebian, 2012). This requires the clinics to be open for several sessions per day, every day of the year (Strang, Groshkova, and Metrebian, 2012). SIH may be less safe than Methadone Maintenance Treatment (MMT) and therefore requires more clinical attention to manage greater safety issues (Strang et al., 2015). As indicated, SIH is not intended for those patients who have never undergone treatment previously; to avoid enrolling patients who could benefit from conventional treatments (Perneger et al., 1998). Supervised injectable treatments are demanding for both staff and patients, and need high monetary and personnel investments. However, the advantage gained from reversal of an otherwise adverse disease trajectory is a considerable achievement, especially in view of the extensive harm of heroin dependence for the user, family, and wider society (Strang et al., 2010).

2.5. Randomised Controlled Trials measuring the effectiveness of SIH treatment

Over the past seventeen years there have been seven RCTs conducted worldwide all confirming SIH’s efficacy in reducing use of illicit heroin and improving various other social, psychological, health and well-being dimensions, as demonstrated by means of validated measures, when compared to MMT. Countries conducting these RCTs include Switzerland (Perneger et al., 1998); the Netherlands (van den Brink et al., 2003); Spain (March et al., 2006); Germany (Haasen et al., 2007), Canada

(Oviedo-Joekes et al., 2008) the UK RIOTT trial in England (Strang et al., 2010) and in Belgium (Demaret et al., 2015).

2.5.1. Injectable Opiate Treatment research in Switzerland

In Switzerland patients comprised community based out-patients in Geneva who had previously failed in at least two previous drug treatments (Perneger et al., 1998). Perneger (1998) featured a small sample size, however was the first study to utilise the fully supervised approach to administering IOT (Strang et al., 2015). 25 patients completed six months of heroin treatment as compared to 24 control patients who received any other conventional treatment, which was usually methadone (Perneger et al., 1998). Results showed that only one heroin treatment patient continued to use illicit heroin at six-month follow-up, compared to ten control patients, with a significant difference of 44% (Perneger et al., 1998). Additionally health status, role limitations due to emotional problems, and social functioning improved significantly for the heroin treatment group (Perneger et al., 1998). Finally, heroin treatment patients also significantly reduced their illegal income and drug expenses and committed significantly fewer drug and property related crimes (Perneger et al., 1998). The efficacy of SIH treatment was clearly indicated through this initial RCT examining SIH's effectiveness.

Perneger et al. (1998) outline some important limitations to their study which are relevant to the SIH literature overall. Firstly, there is clearly a small sample size for this RCT, which called for the development of larger SIH RCTs. Perneger et al. (1998) make a very valid point that the programme assessed global programme effects and therefore differentiation between specific effects of heroin administration and those of these other ancillary services provided as part of such an intervention, such as social service involvement, mental health care and benzodiazepine substitution is problematic. Arguably no quantitative RCT can differentiate these effects, since all patients will be entitled to additional ancillary support, yet take up of them will differ across patients on the basis of need. In an enhanced usual care (EUC) condition, usual care is systematically improved by the research protocol to overcome ethical or methodological problems that would accompany ordinary UC (Freedland et al., 2011). The degree of enhancement can range from minimal to extensive (Freedland et al., 2011). In regards to enhanced treatment as usual in the case of SIH and IOT (i.e., optimised oral methadone treatment - where the patient in the control condition is

provided with the same intensive holistic psychopharmacological treatment as those in SIH) these optimised or enhanced control conditions (across trials and even sites) were probably subject to a great deal of variability. Despite the significant effects between SIH and control groups it is fair to argue that some of the success is due to the effective holistic support characteristic of the regimen. This predicates the reasonable call for additional qualitative research, alongside RCTs, amongst trial patients to unpack the potential effect of these ancillary services in more detail.

Another methodological criticism outlined by Perneger et al. (1998) is that secondary outcome measures are self-reported. However, research shows that self-report data is reliable when conducted by individuals with no control or power over the treatment process (Darke 1998). Methodologically it is difficult to measure these areas of functioning in other ways. Methodologically Perneger et al. (1998) also propose that the restriction of eligibility to patients who had a tendency to fail in conventional treatments may bias the control group. Not only do results not support the efficacy of heroin maintenance as a first line treatment of heroin addiction, but it may also be that repeated failure in conventional treatment impacts the positive result – efficacy – within trials, and once again the case is made for an exploration of patients' pre-enrolment emotions and cognitions. In so doing we may gauge patients' pre-IOT status in relation to how they felt about their drug use and any desire for change. Repeated failure in conventional treatment may create a strong emotional and cognitive desire to strive for change in a new treatment programme.

Perneger et al. (1998) specifically call for further research with larger samples and in other populations (which did follow), that include outcome variables that are not self-reported (again this was conducted through use of urinalysis data in other trials), to explore the specific contribution of medical and psychosocial services to overall programme benefits (this may be explored with qualitative research with trial patients), assess the value of alternative routes of heroin administration (the intravenous and intramuscular routes were both examined within the Strang et al., 2010 RIOTT trial), and to examine possible interactions between baseline characteristics of patients and relative benefit of heroin treatment. Once again this final recommendation can be explored to some extent through qualitative research with trial patients, by specifically examining the baseline situation in more detail, including emotions and cognitions around heroin use history and at treatment enrolment.

Following Perneger et al. (1998) proceeded a large cohort study examining the effectiveness of SIH, conceived by Ambros Uchtenhagen (Rehm et al., 2001); however, this study did not feature a control condition. The study found considerable improvements in physical and mental health and various aspects of social integration and illicit drug use. Whilst the study indicated that heroin treatment is feasible, efficacy was difficult to evaluate because there was no randomised control group. Once again, efficacy solely due to drug administration could not be differentiated from other positive aspects of treatment – since patients in this study were subject to mandatory psychosocial counselling and care. Again, the need for qualitative research to unpack these differential aspects of treatment is required, since delivering heroin treatment without these ancillary aspects is problematic ethically. To echo these points the World Health Organisation (WHO) was unable to determine if the positive effects of the research study were a causal result of the prescription of heroin, the extensive psychosocial counselling and care, or a combination of these factors; i.e., the overall package of care administered (Ali et al., 1999).

Ali et al. (1999) argue that from a rigorous methodological viewpoint, it was not possible to obtain internally valid results with respect to the research question of heroin prescription being causally responsible for improvements in health status or social functioning in the individuals treated. Arguably these factors cannot necessarily be differentiated by means of an RCT either, if all RCTs also provide these highly beneficial ancillary support services – even by means of urinalysis one cannot definitely gauge that this is entirely due to administration of heroin treatment, over and above psychological and social support. Particularly in cases where methadone patients are demonstrated to benefit from the treatment overall in ways that the same patients had not done so previously. These methodological uncertainties may in part be addressed and further explored through the scrutiny of an in-depth interviewing methodology – this however, would obviously remain a subjective account. That said, it may provide more valuable information on what is beneficial within programmes, from patients directly; arguably the most valid source of knowledge on the experience of this unique treatment.

2.5.2. Injectable Opiate Treatment research in The Netherlands

Following Rehm et al (2001) was van den Brink et al (2003)'s RCT in the Netherlands. van den Brink et al (2003) conducted two open-label RCTs in methadone

maintenance treatment (MMT) settings in cities in the Netherlands. Patients were 549 heroin dependent individuals; 375 of which were assigned to inhalable heroin and 174 to injected heroin (thereby addressing the recommendation by Perneger et al. (1998) that other routes of administration should be examined in future work). It should be noted however that whilst inhalable heroin is used by the majority (75–90%; Haasen et al., 2007) of street heroin users in The Netherlands, this route of administration is not customary to other countries population of heroin users (Haasen et al. 2007), and nor was this evidenced in the other SIH RCTs.

Groups were more complicated within this trial and involved firstly; an inhaling trial (comprising three groups; a. a control group receiving twelve months of methadone only; b. an experimental group receiving 12 months of methadone plus inhalable heroin, and c. a comparison group receiving six months of methadone alone followed by six months of methadone plus heroin. This is useful as allows comparison of those in long-term SIH (12 months) to those in a shorter (six month) regimen. Secondly; an injecting trial comprising two groups; a. a control group receiving twelve months of methadone only; and b. an experimental group receiving 12 months of methadone plus injectable heroin.

Once again, within this trial ancillary psychosocial support was offered throughout. Outcomes from this trial differed in the sense that the researchers utilised a dichotomous multi-domain response index including validated measures of physical and mental health and social functioning. In both inhalable and injectable treatment conditions, 12 months of heroin (plus methadone) treatment was significantly more efficacious than the methadone alone condition with a 22.8% difference for the inhalable trial and a 24.3% difference for the injectable trial. Discontinuation of the co-prescribed heroin resulted in a rapid decline in 82% of those who responded to the co-prescribed heroin (van den Brink et al. 2003). In terms of safety of one approach over the other, the incidence of serious adverse events (SAEs) was similar across treatment conditions (van den Brink et al. 2003). Following up on Perneger et al.'s (1998) comments on the question mark over validity through the use of a self-report methodology, in van den Brink et al. (2003) self-report criminal data was validated through use of police charges – with good congruence - and self-reported illicit drug use was validated through use of urinalysis.

2.5.3. Injectable Opiate Treatment research in Spain

Following van den Brink et al. (2003) was March et al. (2006) in Granada in Spain. N=62 patients were randomised; n=31 in each group – oral methadone and injectable diacetylmorphine – and a total of n=50 were analysed. The methodology was an open-label RCT. Recruitment was directly from the streets using peer outreach within known places of use. This is quite a different approach to recruiting through treatment centres which was common-place across the other studies. The experimental group received injected diacetylmorphine twice a day as well as oral methadone once a day for a period of nine months. The control group received oral methadone once a day for this period. Once again comprehensive clinical, psychological, social, and legal support was given to both groups (March et al., 2006). Groups were measured and compared on measures of general health, quality of life, drug-dependence-related problems, illicit heroin use, risk behaviour for HIV and HCV, and psychological, family, and social status. There were improvements across both groups in regards to the dichotomous multi-domain index utilised as primary outcome variable.

The heroin treatment group showed significant improvements in physical health (2.5 times higher); risk behaviour for HIV infection (1.6 times higher). The heroin treatment group significantly decreased its street heroin use from 25 days per month to eight days per month by means of the Addiction Severity Index (ASI), as well as the number of days free from drug-related problems (improvement was 2.1 times higher) or involvement in crime (from 11 days per month to less than one day per month). Whilst the heroin treatment group made gains on a number of variables it was interesting that both the methadone and the heroin treatment groups improved with respect to physical and mental health, quality of life, social functioning, and legal status. This indicated that the structured and holistic care provided across the sample improved the situation on some level across both treatment groups. Physical health and factors pertaining to harm reduction and crime were reduced or improved for the heroin treatment group indicating that SIH lessens some of the chaos and risks associated with the drug using lifestyle. The fact that there were no differences between groups on quality of life and psychosocial factors indicates protection on these factors by virtue of being in a holistic treatment programme or even an RCT. Arguably the employment of these ancillary psychological and social support services call in to question the appropriateness of these quality of life measures as primary or secondary outcome variables.

March et al. (2006) also find that within their trial certain patients who had found methadone ineffective in the past actually benefited from methadone treatment in the framework of the trial. It is important to acknowledge however that patients probably received higher doses of methadone compared with the standard methadone treatment. Clinical practice presents deviations from evidence-based approaches through the use of suboptimal doses (Bell, 2012). This means that treatment as delivered in practice may have resulted in poorer outcomes than predicted by research (Bell, 2012). Uchtenhagen (2015) has some further commentary on this, and this will be described later in a later section of the review.

It is important to note that within March et al.'s (2006) study a team was set up solely for the delivery of medical and psychosocial care for patients. The main activities performed were facilitative help with legal problems and invalidity benefit, housing, and other social resources (e.g., national identity card and health care card). In addition, psychiatric, psychotherapeutic, and medical treatments for concomitant disease were made available. It is clear that much important support was made available to trial patients in addition to pharmacologic treatment received.

The number of visits for the purpose of psychological support was higher in the heroin group as compared to the methadone group. This is interesting and may suggest a greater desire or propensity to access support by those in the heroin treatment group, due to the increased stability this treatment provides. The stability may have led to a greater desire for patients to recover psychologically. However, it should be noted that the number of patients who 'required' psychological treatment was the same in each group – suggesting that missed appointments were more common in the methadone group, which is perhaps not surprising. However, patients attending to access these services are arguably at a greater advantage from an effective or progressive recovery perspective. On the other hand, psychiatric treatment was more often requested by the control group and increased over time (mainly requiring drug prescription). Legal and social support was in greater demand at the beginning, which is understandable, given that the main problematic issues were solved at that point; pensions, pending trials, etc. (March et al., 2006). Speaking more generally, this may lead to greater gains in the initial stages of SIH treatment (i.e., within group improvements as well as between group), which may then plateaux following a substantial period of SIH and when other issues are more likely to have been remedied or stabilised by virtue of the ancillary support provided within the programme.

The researchers highlight the proposal that gains were made by the control group as well as the heroin treatment group in light of the following features of treatment; the high ratio of professionals to patients; the motivation of the staff working in a clinical trial; the higher doses of methadone; the medical, psychological, social, and legal support; and the possibility of obtaining heroin treatment at the end of the trial under compassionate use (March et al., 2006). These are all highly plausible, though additional research would be required to examine these aspects – or scrutinise patient satisfaction and experience of treatment in more detail - for conclusions or even hypotheses to be drawn. March et al (2006) make the important point that these outcomes demonstrate the need for improvements to current substitution programs to achieve improved results with long-term, socially excluded, opiate dependent patients. Also alluded to by March et al (2006), greater scrutiny could be given to current opiate substitution treatment before launching heroin treatment trials, to first discover whether aspects of this treatment could be improved.

2.5.4. Injectable Opiate Treatment research in Germany

Following March et al. (2006) was Haasen et al. (2007) in Germany. Haasen et al. (2007)'s sample involved those in methadone treatment who continued to use heroin, as well as those who were not currently in treatment. Haasen et al. (2007) comprised an open-label multicentre randomised controlled trial involving 1015 patients (n=500 received oral methadone treatment and n=515 received injectable heroin treatment), across seven treatment centres in seven different cities in various regions of Germany for a period of twelve months. Outcome variables comprised improvement of physical and/or mental health and a decrease in illicit drug use. Results showed that retention to treatment was higher in the heroin treatment group (at 67.2%) compared to the methadone group (at 40%). It should be noted that 28.8% of patients assigned to methadone treatment dropped out at baseline, compared to 2.3% of the heroin treatment group. Average number of treatment days was 290 in the heroin group and 195 in the methadone group. There were no significant interaction effects of group or therapy, and after controlling for these effects significant differences between heroin treatment and methadone treatment were still significant. The only meaningful interaction was study centre (there were a number of sites – cities - included in the study) and drug use, indicating a lack of homogeneity in response rates across sites.

This is interesting to note and qualitative research in future work could explore operational differences across localities/sites.

Haasen et al. (2007) make the point of standardising their programmes of additional support, however need - and subsequent take up - of psychosocial ancillary support will vary across individuals (some will end up receiving one element of the standardised care – because they need it, whereas another person will not need it but may need something else; and which dimension is most beneficial cannot always be gauged) – making the case again for qualitative research which can focus on particular dimensions of the programme relative to the patient being interviewed.

Unique to the Haasen et al. (2007) trial was the randomisation of groups and sub-groups – groups involved those who had failed in methadone treatment previously, and those who were not in treatment at baseline. Within the two groups were four sub-groups each; 1. Heroin treatment + education (group psychoeducation plus individual counselling); 2. Heroin treatment + case management (case management and motivational interviewing); 3. Methadone treatment + education; 4. Methadone treatment + case management. The researchers acknowledge that there was more individual flexibility in the case management group than with the more standardised psychosocial care in the psychoeducation group.

The interaction analyses then controlled for target group (in treatment but still using illicitly; versus using illicitly but not in any OST at baseline) and additional therapy (education or case management). What was also unique about this study was that patients could receive heroin treatment up to three times per day. In this study patients were considered responders on the health domain if OTI health scores reduced by 20%. Patients were considered responders on the drug use domain if they had three out of five drug screens negative for illicit heroin in the preceding one month; and no increase in cocaine use (determined through hair analysis). Last Observation Carried Forward (LOCF) was employed in cases of absence of data (hair or urine), and where there was an absence of data at the last observation, this was collected via self-report. Within Haasen et al. (2007) there were more SAEs in the heroin treatment group than in the methadone treatment group (177 versus 138 respectively). Of the events 32.8% of those occurring in the heroin group were probably, possibly or definitely related to the trial medication; relative to 10.9% of those occurring in the methadone group.

Of pertinence to the argument for the need for a longer-term trajectory, Haasen et al. (2007) highlight that the main effect of heroin treatment on outcome measures (illicit

drug use and health) was apparent within the first few months of treatment, with additional growth over the following months. Haasen et al. (2007) illustrate the methodological strength of having two psychosocial interventions as a means of demonstrating that the observed differences between the heroin and methadone treatment groups were not as a consequence of the differences in psychosocial treatment. This demonstrates some indication of this, however it may be that there is something about the structure of the programme itself that leads to stability and positive outcomes amongst patients – in light of the fact that the methadone group also improved to some extent over time – and this needs exploration.

Haasen et al. (2007) also highlight that there was a low retention rate in the methadone treatment group, indicating that the patients who remain in this treatment are a highly selective group. That said, it was also the case that their outcomes were significantly lower than the heroin treatment group. Patients who remain in methadone treatment during IOT trials may be more motivated to remain in treatment than those who leave.

Haasen et al. (2007) usefully caution that the positive effects of heroin treatment must be weighed against the higher rate of SAEs; a high number of which appeared to be associated with the medication. Haasen et al. (2007) also highlight the fact that given the very poor health of patients at baseline, interventions are put in to place to address this as soon as patients register on the trial. This may in part contribute to such large improvements in outcome at the initial stages of treatment initiation, despite the fact that these occur prior to treatment baseline. It is likely that psychosocial intervention occurs most commonly in the first six months of treatment, where the need is probably highest. Finally of importance methodologically to the field, Haasen et al. (2007) highlight the finding by Rounsaville (1993) that self-report measures of drug taking are found to be accurate, valid and reliable as long as confidentiality is assured and there are no consequential sanctions posed on patients (Rounsaville, 1993). It is important that studies take this in to account, and that patients are reassured that this is the case.

2.5.6. Injectable Opiate Treatment research in Canada

Following Haasen et al. (2007) was the Canadian North American Opiate Medication Initiative (NAOMI) trial by Oviedo-Joekes et al. (2009). This study comprised N=115 heroin treatment patients compared to N=111 oral methadone treatment patients in Montreal and Vancouver. The study's duration was twelve months and outcome variables measured included retention in treatment; cessation and reduction of use of illicit drugs; and criminal activity. Retention to treatment in the heroin treatment group was statistically significantly higher (at 87.8%) than the methadone treatment group (at 54.1%).

Oviedo-Joekes et al. (2009) usefully highlight that the fact that patients in the control condition were eligible to receive heroin treatment at the end of the trial (the custom in some of the other trials too) may have introduced bias in the retention rates for this group, hence the relatively high percentage here. This is an example of the downside of an RCT, over a case control study; whereby findings in RCTs may not mirror what would happen in clinical practice. In terms of reduction in use of illicit drugs and other illegal activities; this was 67% in the heroin treatment group relative to 47.7% in the methadone treatment group. This once again was statistically significant, though it is noteworthy that the methadone treatment group did also reduce their illicit drug use and other illegal activity quite significantly.

It is interesting that this study quantified reduction in illicit drug use together with other illegal activity. It may be the case that the overall structure of IOT trials foster a new – for this population - culture of law abiding, rather than just by virtue of the fact that the patient receives 'free heroin', and therefore has no need to engage in criminal activity, though clearly this will also be a significant factor. Qualitative research with this sample may yield light on structure and process of IOT, as experienced by patients. Following twelve months of this treatment patients' doses were tapered and they were switched to conventional treatment such as oral methadone treatment (Oviedo-Joekes et al., 2009).

The Oviedo-Joekes et al. (2009) study had a slight change to the inclusion criteria; one aspect of which was that patients could not have been enrolled in methadone maintenance treatment in the previous six months; this differed to the European trials conducted prior to this one, who enrolled those who were currently in methadone treatment. The researchers do not elaborate on the reason for this difference in the North American trial but do make the worthwhile point in the conclusion, that within

this trial patients who would otherwise remain outside of healthcare provision, significantly benefit from this treatment. As well as centre, patients were stratified according to number of previous methadone attempts (two or fewer versus three or more); this was arguably a pertinent factor to control for, offering information on who best benefits from IOT.

Patients in this trial could access injectable treatment up to three times daily, with a maximum dosing of 1000mg. Patients were also permitted to switch partially or fully to oral methadone treatment if they wanted to, or if deemed necessary or appropriate by physician (Oviedo-Joekes et al., 2009). Once again, patients in this study were offered a comprehensive range of psychosocial and medical services. Retention to treatment in this study was defined as attendance to receive study medication on 10 out of 14 appointments prior to the twelve-month data collection point.

Arguably this does not provide a complete picture of patient retention, or adherence to the regimen, for the full 12 months of the trial. In terms of reduction in illicit drug use and other criminal activities, patients in Oviedo-Joekes (2009) were considered responders at 12 months if they had made an improvement of at least 20% from baseline scores of illicit drug use, criminal activity or both. Whilst significant improvements were found in the heroin group, improvements in composite scores for drug use and illegal activities were found in both groups. Interestingly the number of days of cocaine use did not significantly change in either group.

Oviedo-Joekes et al. (2009) report an overall reduction in the amount of money spent on illicit drugs in both groups – this is a worthwhile finding, in the context of a concern that heroin treatment may free up funds for patients to spend on other drugs (Oviedo-Joekes et al., 2009). The fact that this did not appear to occur suggests an overall desire on the part of patients to make wider lifestyle changes; to use time in heroin treatment as an opportunity to recover more widely, rather than just access ‘free heroin’. The heroin group had significant improvements with respect to medical and psychiatric status, economic status, employment status, and family and social relationships. The fact that improvements were present across these multi-facets of life suggests a positive treatment effect beyond reduction in illicit drug use and illegal activities. The authors also usefully highlight how advantageous this is in light of the time frame and the population of patients under study.

Oviedo-Joekes (2009) rule out a double-blinding methodology - which is the gold standard in RCT designs - on the basis that patients and researchers would likely guess which treatment they had been administered, due to the different

pharmacokinetic properties of the drugs. This links to the debate on whether IOT efficacy trials are measuring the efficacy of the drug only, or all the nonspecific aspects of treatment delivery (e.g., a patient attending the clinic every day, and having trained staff on hand to talk to), and specific, yet unmeasured and unstandardised aspects, such as therapeutic alliance with keyworker and varying levels of psychosocial support. Ethical procedure precludes the removal of these aspects of treatment, however it seems important for next steps for IOT research and policy that some of these additional, specific and unspecific aspects of treatment are brought to the fore, perhaps through standardisation of control conditions.

Following this RCT, Marchand et al. (2011) conducted a questionnaire study examining patient satisfaction with treatment. A total of 232 (92%) and 237 (94%) patients completed the Client Satisfaction Questionnaire (CSQ-8) measure at three and 12 months, respectively. The CSQ-8 assesses global patient satisfaction using a 4-point Likert type scale and also provides a general score ranging from 8 to 32. Patients in both groups were highly satisfied with treatment. This finding was independent of treatment group, and showed that patients satisfied with treatment at three months were more likely to be retained in treatment at 12 months. Multivariate analyses indicated that satisfaction was greater among those randomised to the injection group after controlling for treatment effectiveness. Patients who were retained, responded to treatment, had fewer psychological symptoms and were more satisfied with treatment. Open-ended comments were made by 149 (60.3%) patients; concerns about the randomisation process and the study ending were most commonly reported by patients receiving the oral and injectable medications, respectively (Marchand et al., 2011). It is useful to know that patients are satisfied with treatment but much is left unexplored in terms of why patients are satisfied, and how this satisfaction maps on to the treatment trajectory. Additionally, what aspects of treatment are patients satisfied with, and are there areas of dissatisfaction that may affect engagement and outcomes; these lines of inquiry could be expanded upon with qualitative research, in order to better understand the context and process of an IOT regimen and meaning making for patients. Clearly worries about treatment ending are apparent, and could be worked with therapeutically.

2.5.7. The UK Randomised Injectable Opiate Treatment Trial

The UK Randomised Injectable Opiate Treatment Trial (RIOTT: Strang et al., 2010) is the original study comprising the sample of patients for which this thesis examines and describes. Strang et al. (2010) sought to try to understand whether patients previously unresponsive to treatment were untreatable or just difficult to treat. Patients were recruited between September 2005 and August 2008, and outcomes at six months are published in Strang et al. (2010). Strang et al. (2010) outline the fact that – the majority of – previous studies utilise self-report illicit measures as their outcome variable, whereas Strang et al. (2010) employ use of urinalysis. Whilst self-report is found to be reliable when sanctions are not imposed on patients as a result, and collected by those with no power and control over the treatment process; urinalysis offers a greater level of methodological rigour. However, it may still be the case that patients can submit false urine screens, and this should always be considered.

Strang et al. (2010) also highlight the fact that the various previous IOT RCTs employed an array of relatively complex outcome measures, making comparisons across studies difficult. It should also be noted that comparison across different countries and cultures may affect what constitutes a control condition; since what constitutes treatment as usual will likely differ across clinics and countries. Uchtenhagen (2015) suggests that heroin treatment policy should include decisions about where the priorities for treatment goals and evaluation of outcomes are, in response to the main problems in a given country.

Strang et al. (2010) also highlight the fact that of the five previous studies only Haasen et al. (2007) and Oviedo-Joekes (2009) had employed use of optimised oral methadone – a more comparable control condition. The need for high doses for efficacy sits appropriately within a supervised prescribed setting, where patients can be closely monitored post dose. Strang et al. (2010) offer another unique dimension, through the use of an SIM condition; the necessity of an examination of this treatment is outlined on the basis that in the UK it has been prescribed more widely than SIH (Sell and Zador, 2004; Strang, 1996).

RIOTT was a multi-site, open label, RCT involving heroin dependent individuals who were continuing to inject illicit heroin regularly (more than 50% of days in a preceding three-month period), and who had been receiving conventional opiate treatment for at least six months prior to trial randomisation. RCT data was collected from patients for a period of 26 weeks across three supervised injecting clinics in England (in

Brighton, London and Darlington). Following the 26-week programme patients could continue receiving treatment, and outcomes continued to be collected for a further 30 months. However, patients could move to different treatments if clinically appropriate. The following summary refers to the 26 week RIOTT trial only and subsequent analyses and research will be discussed later in the thesis. The primary outcome was urinalysis and success was defined as 50% or more of negative specimens for illicit heroin during weeks 14-26 of the trial. Secondary outcomes included other drug use; injecting practices; psychosocial and general health; and crime.

Following randomisation N=42 patients were allocated to receive supervised injectable methadone (SIM); N=42 to optimised oral methadone (OOM); and N=43 to supervised injectable heroin (SIH), and analysis was intention to treat (ITT). Following 26 weeks of treatment 80% of patients were retained to treatment; N=34 (81%) remained in SIM treatment; N=38 (88%) remained in SIH treatment, and N=29 (69%) remained in OM treatment. Two considerations are that, firstly, non-SIH patients (OOM and SIM) were informed that they may transfer to SIH treatment (if clinically appropriate) following this initial 26-week period of either SIM or OOM treatment. This may have led to a higher than usual retention within both SIM and OOM groups. However, it is interesting that retention was somewhat higher in the SIM group relative to the OOM group, suggesting the strength of the injectable route of administration. It may be, however, that other – for example psychological - factors also arose from randomisation to OOM, as opposed to SIH, such as annoyance or despondency – which affected retention to treatment. The retention rate was reasonably high in the other two groups; 66% and 81% for OOM and SIM respectively. Retention was similar to that in the Canadian trial (Oviedo-Joekes et al., 2008) and was higher than in studies from the Netherlands (van den Brink et al., 2003), Spain (March et al., 2006), and Germany (Haasen et al., 2007).

Results showed that patients in the heroin group were significantly more likely to have achieved the primary (a reduction in use of illicit heroin; 50% or more negative specimens for street heroin on weekly urinalysis during weeks 14–26) outcome (72%) than were those on oral methadone (27%) – here the observed difference is fairly large and statistically the p=<0.0001 (CI 2.69-20.46); number needed to treat (NNT) was 2.17 (CI 1.60-3.97). The analyses comparing OOM to SIM (39%) were not significant; SIM compared to SIH was significant (p=0.002), however the study was not significantly powered for this comparison.

Strang et al. (2010) illustrate that these differences were evident within the first six weeks of treatment. Longitudinally it is important to examine whether these benefits are maintained over time. The RIOTT study was powered on the assumption that regular use of street heroin would reduce in 69% of patients on injectable methadone, 85% of those on injectable heroin, and 33% of those on oral methadone, on the basis of previous trials (Perneger et al., 1998; van den Brink et al., 2003; Strang et al., 2010). Values were rather different than that predicted – particularly injectable methadone; this treatment appeared to maintain patients without the need for illicit injecting to a greater extent than was expected.

Whilst the trial was open label, and therefore there may be instances of bias (for example, nurses administering treatment expecting better results from those in injectable treatments, and specifically SIH – thereby perhaps behaving differently with these groups) some degree of bias may have been minimised through masking of laboratory personnel to treatment allocation and masking of statistician to injectable group (however not to oral versus injectable group). These individuals were also separate to the addictions research team. Strang et al. (2010) accept that since the trial was open-label, patients' awareness of their treatment allocation may have affected expectancy and behaviour. Arguably staff and clinicians' expectations and behaviour may have impacted how patients felt and engaged. Experiences and behaviour can be examined through qualitative research.

Strang et al. (2010) outline in slightly more detail psychosocial support that patients received; including weekly reviews with a keyworker and monthly medical reviews. They also state that patients received access to psychological services, though additional support services are clearly not standardised across patients/sites, with no controlling for who received psychological intervention. It may be that some patients received therapeutic support, and others group therapy, but who received what therapies was not outlined nor controlled for. It may be that those in injectable treatment were more likely to access psychological support, and the support accessed was contributory to successful recovery. Strang et al. (2010) also suggest that as well as optimised doses of methadone, an increase in therapeutic engagement may have contributed to the finding that one fifth of those assigned to OOM treatment had reduced their use of illicit heroin by six months. This is important in the context of the long-term heroin use and treatment histories of the sample as a whole, and their criminal histories. Qualitative research should investigate in more detail the perceived effect of psychological support during IOT to examine whether this was a factor of

importance to patients, and whether they perceived it to be an important mechanism of this treatment for recovery.

2.5.7.1. UK Randomised Injectable Opiate Treatment Trial inclusion criteria

The RIOTT trial targeted individuals in methadone treatment who continued to inject illicit heroin regularly. Specific criteria were: 1. Aged 18-65. 2. Have at least a three-year injecting heroin use history. 3. Have been in continuous methadone treatment episode of at least 6 months. 4. Regular injecting heroin use in previous three months (as demonstrated by opiate-positive urine drug screens and self-report via clinical records), and heroin use on at least 50% of days (15 days) in the preceding month via self-report. 5. Evidence of regular injecting on clinical examination. 6. No significant, active medical (e.g., hepatic failure) or psychiatric condition (e.g., present psychosis, severe affective disorder). 7. Not alcohol dependent or regularly abusing benzodiazepines according to DSM-IV criteria. 8. Not pregnant, breastfeeding, or planning to become pregnant during the trial period. 9. Resident of catchment area of participating clinic. 10. Willing and able to participate in the study procedures (e.g., no imminent prison sentence) and provide informed consent.

2.5.7.2. Patients included in the UK Randomised Injectable Opiate Treatment Trial

A majority of patients were men (93 [73%]), white (122 [96%]), and unemployed (121 [95%]), had spent time in prison (93 [73%], a mean of 5.9 times [SD 7]), and had a mean age of 37.2 years (SD 6.5). Patients had used opiates for a mean of 16·6 years (SD 7.3), had injected drugs for a mean of 13.7 years (SD 7.8), and had received treatment for a mean of 9.8 years (SD 6.7). 127 (100%) patients had been previously treated for opiate use (with a mean of 4·4 times [SD 4.2]), and 52 (41%) had received residential drug-free rehabilitation (mean of 1.8 times [1.8]). All were using street heroin virtually daily (mean 27.5 days out of 30 days [3.6]), and almost half (54 [43%]) also reported regular use of cocaine or crack cocaine. All patients were receiving methadone treatment at enrolment (continuously for more than 6 months), and 50 (39%) were receiving optimised methadone treatment (Strang et al., 2010).

2.5.7.3. Description of UK Injectable Opiate Treatment

Lintzeris et al. (2006) outline the methodology and description of trial treatment for the RIOTT trial. The full description as described in the paper (Lintzeris et al., 2006) is in appendix 1.

2.5.7.4. Injectable Opiate Treatment trial patient retention

At 26 weeks, 101 (80%) patients remained in the assigned trial treatment: 34 (81%) on injectable methadone, 38 (88%) on injectable heroin, and 29 (69%) on oral methadone. 12 patients did not start treatment, of whom eight continued in their previous methadone treatment (outside the trial). Of the 14 patients who discontinued their assigned treatment (four on injectable methadone, four on injectable heroin, six on oral methadone), four were imprisoned, four discharged themselves from assigned treatment, one moved out of the catchment area, two were discharged for medical reasons, one violated the protocol, and two missed 28 days of treatment. Patients on oral methadone were statistically significantly more likely to not start treatment than were those on injectable heroin (p=0·030). After exclusion of patients who did not start treatment, the proportion of patients retained at 13 and 26 weeks did not differ significantly between treatment groups (Strang et al., 2010).

2.5.7.5. Abstinence by six months

An eighth of patients on injectable heroin achieved complete abstinence, and two-fifths achieved almost complete sets of urine samples negative for street heroin, with two or fewer positive samples during weeks 14–26. Abstinence or near abstinence was higher amongst patients on injectable heroin than amongst those on injectable methadone or oral methadone, and patients on injectable heroin were significantly more likely to be near abstinent from street heroin than were those on oral methadone. There were no significant differences in abstinence for injectable heroin versus oral methadone, or differences in abstinence or near abstinence for injectable methadone versus oral methadone. 18% (n=8) of patients on injectable methadone, 37% (n=16) of those on injectable heroin, and 8% (n=3) of those on oral methadone

were abstinent from street heroin at weeks 23-26 with corroboration on self-report as compared to urinalysis. Significantly more patients on injectable heroin were abstinent than were those on oral methadone (OR 6·54, 95% CI 1·91–22·34, p=0·003), but the differences were not significant for injectable methadone versus oral methadone (2·37, 0·63–8·86, p=0·199) or for injectable heroin versus injectable methadone (2·76, 0·98–7·77, p=0·055) (Strang et al., 2010).

2.5.7.6. Secondary outcomes

In a separate paper Groshkova et al. (2015) examined differences across secondary outcomes (other drug and alcohol use, social functioning and physical and mental health) within and between the three treatment groups. By six months, 80% of patients were retained in their assigned trial treatment. Comparisons at six months found that there were no significant differences between the three treatment groups in these secondary outcomes; wider drug use (crack/cocaine, benzodiazepines, and alcohol), physical and mental health (SF-36) or social functioning (OTI). However there were significant differences within each treatment group (SIH, SIM and OOM) in comparisons with outcomes at baseline on these measures. Specifically, significant within-group reductions were observed in crime and money spent per week on illicit drugs at six months as compared to the baseline situation, and this applied to all three treatment groups (the two IOT groups; SIH and SIM, and the control group; OOM). The SIH group was also significantly more likely to have reduced money spent on illicit drugs as compared to OOM. This latter finding is unsurprising in the context of SIH treatment, and accords with the primary outcome; reduction in use of illicit heroin. Significant improvements were also found in physical health for SIH and SIM and mental health for OOM (Metrebian et al., 2015). The researchers conclude that the injectable conditions (SIM and SIH) showed no clearly identified benefit over OOM in terms of wider drug use, crime, physical and mental health within a 6-month period, despite reducing street heroin use to a greater extent (Metrebian et al. 2015). It was interesting to find that all interventions were associated with improvements in these outcomes and it is noted that all three groups received high levels of medical and psychosocial support (Metrebian et al., 2015).

2.5.7.7. Randomised Injectable Opiate Treatment Trial patients' expectations and satisfaction

An additional component of the RIOTT study – Groshkova et al. (2013) – comprised administration of questionnaires to 113 (of 127 who completed the trial) RIOTT trial patients both pre-randomisation and post-treatment to gauge pre-treatment expectations and post-treatment satisfaction respectively. Within this questionnaire study, which included both fixed response items as well as open text response items, patients were asked about treatment preference (patients had to rank order the three treatment types in order of preference); and expectations of the treatment's ability to reduce illicit drug (street heroin, crack and other drug use) and alcohol use, with response categories: either yes (would reduce drug/alcohol use) or no (would not reduce drug/alcohol use) were provided. At baseline patients were also asked questions exploring life areas in which help was most needed by the patient during this treatment episode. In terms of satisfaction (following six months of treatment) patients were asked again to rank order treatment preferences. They were also asked about the impact of treatment on illicit drug and alcohol use. Satisfaction questions included injecting room, injecting sites, injecting attempts allowed, clinic opening hours, twice daily clinic attendance and no take-away doses. Five response categories were provided: very dissatisfied, dissatisfied, mixed, satisfied and very satisfied.

Results showed that 87% of patients expressed a preference for SIH treatment, with 11% expressing a preference for SIM. It would be interesting to explore why these patients had a preference for SIM, as this deviates from what would be expected. At six months there was a marginal increase in those expressing preference for OOM. 69% expected that SIH would reduce their use of illicit heroin; 55% and 26% thought SIM and OOM would achieve this goal respectively. Only 28% thought that SIH would reduce their use of crack, and this percentage was lower for SIM (13%) and OOM (10%). Patients stated that they desired help with the following areas - reducing their drug use (81%); achievement of stability, normality, routine and structure in one's life (16%); improve education and work opportunities (15%); improve housing situation (12%), physical health (12%), psychological wellbeing (12%) and finances (12%). While there were few differences between treatment groups, those in the SIM group were far less likely to report wanting help to achieve stability, normality, routine and structure than those in the SIH and OOM groups (3% vs. 22% and 22%). Why this was, is unknown, and should be further explored.

Following six months of treatment nearly all of those receiving IOT (SIH: 97%; SIM: 85%; OOM: 62%) reported that their treatment had led to substantial reductions in 'street' heroin use. Patients (SIH: 52%; SIM: 39%; OOM: 24%) reported that their treatment had helped reduce their crack use. Areas of life patients reported that treatment had helped them with were reducing their drug use (SIH: 59%; SIM: 56%; OOM: 54%); physical health improvement (SIH: 47%; SIM: 17%; OOM: 21%); improvement in finances (SIH: 48%; SIM: 17%; OOM: 21%); family and relationships (SIH: 35%; SIM: 17%; OOM: 12%). Patients reported being very satisfied (SIH: 28%; SIM: 28%) or satisfied (SIH: 66%; SIM: 59%) with injecting under supervision.

These data are useful, however neglect to illustrate the treatment trajectory and patients' narratives are not entirely their own through use of a simple questionnaire measure. Questionnaires were simple and specific, and open text comments were not in-depth. Questionnaire measures were not validated for reliability or validity. Additionally these measures were administered by the RIOTT research team following six months of treatment and since the treatment was still being administered are subject to biases. A full qualitative interview employing rigorous qualitative methodology would be beneficial, examining the recovery trajectory in its entirety. Inviting patients to share their narratives through a qualitative interview invites a more collaborative approach to data collection, which is not possible when questionnaires are administered as part of a battery of measures during an RCT. In this sense patients may feel they are required to share their perspectives in exchange for treatment medication.

The research study did, however, illustrate patients' aspirations and expectations and these could be expanded upon in detail through in-depth interviewing. The researchers acknowledge that it is important to note the dynamic nature of aspirations; that having made good progress during their six months of IOT, they find that a number of trial patients had moved on in their aspirations and sought further, wider recovery, thus necessitating a dynamic and responsive treatment system that moves with the patient and their progress (Groshkova et al., 2013). This trajectory of aspiration and recovery should be explored in detail with patients. Additionally questionnaire items may be creating cognitions and ideas for participants rather than accessing them (Ogden, 2003), that is, a more open-ended approach may help elicit the patient's account in their own words.

In January 2012 the Department of Health stated that 'As a result of this trial and other international research, IOT is now evidenced as a clinically effective second line

treatment for the small number of people who have repeatedly failed to respond to standard methadone treatment or residential rehabilitation'. (Department of Health, 2012).

2.6. Injectable Opiate Treatment research in Belgium

During the write-up stage of the thesis researchers in Belgium published the results of their trial of injectable heroin treatment, which compared this group to oral methadone patients (Demaret et al., 2015). This trial involved N=74 patients who were assessed every three months for a period of 12-months. The researchers specifically state that unlike in other European trials the Belgian trial was strictly limited to a 12-month treatment period for political and legal reasons (Demaret et al., 2015). This specifically illustrates how the social and political can impact trial methodology (and perhaps then patient experience and outcome) across different regions and countries; further highlighting the importance in-depth work with patients across all regions implementing this complex, controversial treatment. In a similar line of thought, inclusion criteria across the various trials differed (for example, in Belgium it was that patients had to have been using heroin dependently - and daily or almost daily - for five years, with one previous methadone treatment attempt. This can be contrasted with Oviedo-Joekes et al. (2009) who specified that patients could not have been in methadone treatment preceding enrolment on their trial. It could be argued that these patients may not constitute treatment failures to the same extent as those with virtually a lifetime of previous failed methadone attempts. Arguably, differing pre-treatment and referral situations could affect how patients engage with treatment. This once again highlights the need to explore pre-treatment and referral situations in detail.

Patients were classified as responders to treatment medication if they improved in domains of illicit heroin use, health, and criminal engagement (Demaret et al., 2015). Improvement or deterioration was indicated by a difference of 40% between data at baseline and at 12-months. Deterioration was also recorded if a patient used 20% more cocaine than at baseline. In the Demaret et al. (2015) trial clinics were open between 07:30 and 18:30 (for up to three injections per day) and heroin treatment patients received their treatment in a specially designed treatment centre; whereas methadone patients received their treatment in already existing partner clinics elsewhere. The opening hours of this clinic are longer and more flexible than that of

the UK clinics, which was a positive development given comments in qualitative work across other trials - e.g., Güttinger et al. (2003); Oviedo-Joekes et al. (2014) - which highlighted the difficulty of restricted opening hours on potential employment opportunities. Here the benefit of qualitative work for practice development is reinforced. Both groups in the Demaret (2015) trial received psychosocial support.

Demaret (2015) highlight that as part of their recruitment process the media spread information on the trial. Response to this treatment by the outside world may impact patients' perceptions and engagement with the treatment. For example, in the UK there was some negative portraying of the treatment in the media – headlines are included in the thesis appendix (appendix 3) to illustrate the social context. Similar to Blanken et al. (2009); March, Oviedo-Joekes, and Romero (2006), primary outcome criterion was a dichotomous, multi-domain index based on three domains. In this study it encompassed street heroin use (days of use during the previous month), health (scores on the MAP-HSS and the SCL-90-R) and criminal involvement (number of self-reported activities committed or experienced in the previous month). Responders were deemed as such if they showed improvement in at least one domain and no deterioration in any domain. This differs to other studies (e.g., Strang et al., 2010) which utilise use of illicit heroin as the primary outcome variable. Something of further interest was that some patients refused additional – take-home – methadone doses "at first", implying that this changed over time. It would be useful to gauge patients' perceptions of additional methadone in these trials – what are the reasons that patients are reluctant to consume additional methadone?

By 12-months, 75% of patients were retained in the experimental (heroin) treatment condition and 34% were retained in the methadone condition, and this difference was statistically significant (Demaret et al., 2015). 67% patients in the heroin treatment condition and 55% in the control group were responders at the 12-month assessment; the difference (11%) was not statistically significant. Very interestingly the number of responders decreased at the 12-month assessment in the experimental group while it continued to rise in the control group again suggesting support for the protective aspect of being in a treatment trial *per se*. Patients in SIH were treated in a separate clinic to those in methadone treatment, throwing a question over the comparability of the two conditions with regard ancillary support.

At each other time point there were 30% or more responders in the heroin treatment group relative to the methadone treatment group. There were statistically fewer criminal acts at 12-months across both groups, but with no statistically significant

differences between groups. Patients in the experimental group showed statistically greater improvement with respect to depression and psychoticism dimensions on the SCL-90-R, and self-reported use of benzodiazepines in the EuropASI decreased significantly more in the experimental group (Demaret et al., 2015). This study usefully highlights the negative effects of short-term regimens, and in their case the fact that the medication was predetermined to cease at 12-months. The researchers discuss the impact this may have on the patient's recovery. They highlight that in the Dutch trial (van den Brink et al., 2003), after 12-months, an interruption of HAT for two months also had a negative impact: 82% of the patients who were completers and responders deteriorated substantially.

Of great pertinence to the research pool on SIH, policy, and practice, the Belgium researchers facilitated a side-study (yet at the time of this thesis write up it was unpublished; results were summarised in Demaret et al. (2015). The study examined why those approached, refused participation. Of those 52 heroin users, 25 reported that they were afraid of the limited (finite) length of the heroin treatment (i.e., 12-months in Demaret et al., 2015) and 11 feared becoming more dependent as a result of heroin treatment. The latter narrative suggests that possibly these patients may not have had the lengthy heroin and treatment histories of other cohorts and studies. The researchers conclude that the time-limited nature of the regimen may have demotivated heroin users who could otherwise have benefited from this treatment. Pre-IOT perceptions should be explored in both research and clinical practice.

As with other studies the researchers conclude that SIH is efficacious for short-term heroin treatment for entrenched heroin users who have previously failed in methadone treatment. Since this is the most recent SIH trial conducted to date, the researchers make the interesting point that despite the predetermined duration of SIH, the longitudinal retention rate (75%) in the heroin group was higher than in other trials (e.g., 68% in the Netherlands and 67% in Germany and Canada). This difference and the proportion of exclusion for violation of house rules (14% in Belgium, 15% in the Canadian trial and 6% in the Dutch study) indicate that SIH could be further improved (Demaret et al., 2015). Demaret et al. (2015) argue that additional international research is needed to identify best practice and to enhance compliance with this effective treatment. Any future SIH treatment programme should incorporate learning from all seven of these trials, along with the longitudinal research trials and the qualitative research studies, as well as wider research discourse.

2.7. Systematic reviews and meta-analyses

Several systematic reviews and meta-analyses have been conducted on supervised injectable heroin treatment. The first was by (Ferri, Davoli, and Perucci, 2005) and included four heroin treatment studies; this was updated in by Ferri et al. (2011) and included eight studies. The studies included in the 2006 review were Hartnoll et al. (1980) and Perneger et al. (1998). The Hartnoll et al. (1980) study was not a supervised injectable facility and nor was it an RCT. Perneger et al. (1998) comprised the first RCT in the area, however the sample size was very small. van den Brink et al. (2003) was a large RCT with an inhalable component and involved supervised dosing. Ferri et al. (2011) conducted a further review – adding March et al. (2006); Haasen et al. (2007); Oviedo-Joekes (2009); and Strang et al. (2010).

Results showed that mortality was better for heroin groups, but this was not statistically significant. Other aspects could not be pooled due to varying outcome measures. Social functioning improved in all groups, with slightly better outcomes for the heroin groups. These results are arguably unremarkable. It is fair to propose that differences across studies, from design and sample size, to outcome variables utilised, make review difficult. The mechanisms of exactly why SIH is more effective still remains unexplored. The Cochrane review concluded that: 'the available evidence suggests an added value of heroin prescribed alongside flexible doses of methadone for long-term, treatment refractory, opioid users, to reach a decrease in the use of illicit substances, involvement in criminal activity and incarceration, a possible reduction in mortality; and an increase in retention in treatment.' (Ferri, Davoli, and Perucci, 2011).

The Strang et al. (2015) review was published during write-up of the PhD thesis and illustrated that the Ferri et al (2006 and 2011) reviews included studies featuring heroin provision of various modalities and routes of administration (i.e., supervised and unsupervised prescribing practices and prescribing of both injectable and inhalable heroin). Strang et al. (2015) regard the SIH approach as a distinct treatment necessitating its own specific scrutiny and analysis and thus aimed to undertake a systematic review and meta-analysis of a defined narrow group of randomised trials of supervised injectable heroin prescribing specifically - and usefully - to examine the political and scientific response to the published findings.

Some useful comments for future research are derived from the Strang et al. (2015) review. Strang et al. (2015) highlight that learning needs to be extended to the

process and influences on remission of illicit drug use and elimination of related problems, and, more importantly, enhanced quality of life and social functioning of patients. Arguably these investigations would be most comprehensively explored through qualitative research – with patients – which explore patients' trajectories and experiences. Strang et al. (2015) discuss the fact that across all trials recruitment proved difficult, posing the hypothesis that for many marginalised heroin users, the attraction of prescribed diamorphine is not necessarily sufficient to promote engagement in highly structured treatment (Strang et al. 2015). Once again this is an area that could be usefully explored with patients directly, through qualitative inquiry exploring patients' pre-trial perspectives and expectations, including how patients came to be referred to IOT, and initial motivations. Strang et al. (2015) point out that relative to the Cochrane systematic reviews conducted previously, their review (including only supervised injectable regimens) illustrates a clearer and stronger signal in favour of this approach over traditional OST approaches. Strang et al. (2015) do also highlight that the latest 2011 Cochrane review reaches a more positive conclusion on SIH than the original 2005 Cochrane review, including fewer studies, with different methodologies – the newer review encompassing these, but also six international SIH trials, with the exclusion of Demaret (2015).

2.8. Cohort of longitudinal Supervised Injectable Heroin outcome studies

Longer-term data are also available from eight extended follow-up studies in four countries with a consistent finding of additional sustained benefit across a range of different outcome categories (Strang et al., 2015).

In Switzerland Rehm et al. (2001) found that a longer (18-month) stay in IOT was related to a higher chance of starting abstinence-oriented therapy than a short stay. In the subset of patients that were followed for 18-months, the health of those with severe somatic or mental health problems at the start (somatic: 22% start; 13% 18-months; mental: 35% start; 24% 18-months) of treatment improved, and those with a low body-mass index put on weight (start: 35%; 18-months: 24%). This study showed that 34% of patients were retained in treatment for five years or longer. Whereas only nine per cent of the discharges during the first four months switched to abstinence treatment, this proportion more than tripled (29%) for patients discharged after three years of treatment. This suggests the need for a long period of adjustment and stability, and the details of how and why in regards to this trajectory could be explored

in qualitative interviews with patients who have undertaken longer-term IOT. The proportion of (almost) daily consumers of illegal heroin decreased from 81 to 6% during this time period, and the proportion of almost daily cocaine use decreased from 29 to 5% (Rehm et al., 2001). With respect to changes in social integration, homelessness almost disappeared within the first 18-months of heroin assisted treatment, and a marked improvement was seen in reintegration into the labour market (73% were unemployed at baseline relative to 45% at 18-months). These are impressive longer-term changes.

Research studies have not yet analysed the question of how HAT influences the long-term living conditions of patients and former patients (Güttinger et al., 2003). Further analysis in a separate paper a few years later found that not only is SIH efficacious in the long-term course of treatment - with respect to living conditions and use of illicit substances - it is still effective after termination of treatment (Güttinger et al., 2003). This is of particular importance, and an area little explored to date – the trajectory and experience of those who have undergone long-term IOT and who then moved on from IOT. It was encouraging that the positive changes which could be achieved in the mid-term and long-term course of treatment persisted even if treatment had been terminated; and that there was very little difference between the two groups with respect to their living situations six years after they first entered treatment. A central question in every substitution treatment program concerns the long-term consequences of treatment with respect to successful rehabilitation (Güttinger et al., 2003). This concept of rehabilitation both following long-term retention and post-IOT could be explored more thoroughly qualitatively, and with the UK sample (i.e. interviewing a sample of those with differing discharge statuses; including those retained in long-term IOT, and those who have discharged both positively – e.g., voluntarily – and negatively – e.g., compulsorily).

At long-term follow-up, 43 of the 366 (11.7%) patients who were included in the Guttinger et al. (2003) re-examination were deceased. Of those 43 patients, five patients were in SIH at the time of death, seven people died within one week following discharge from a treatment program, and the remaining 31 died more than one week following termination of treatment. A third paper (Rehm et al., 2005) examined mortality and causes. Illicit heroin use significantly reduced both long-term and post-treatment; of those still in treatment n=132 (84.7%) used heroin daily or nearly daily at baseline relative to 3.8 at six years. Of those who had left treatment n=122 (76.1%) used heroin at baseline relative to 18.9% at six years. There was also a significant difference in reductions between the two groups; with a greater reduction amongst

the group retained in treatment. Use of other drugs also reduced, benzodiazepines and cocaine significantly so, with a non-significant rise in use of cannabis from baseline to six years, across both groups (Güttinger et al., 2003). One aspect of this study clearly illustrates not just the strong benefit of being in a programme in and of itself, separate to the benefit of drug administration, but also the impact of ancillary services on outcome and recovery through analysis of patient relationship with financial debt.

Patients who had terminated treatment showed more problematic outcomes with respect to debt (Güttinger et al., 2003). The researchers propose that this is likely to be due to the great effort treatment centres devote to debt counselling and administration of patients' finances. They also propose that it was due to the lower costs for patients to finance substance dependence compared to persons who had terminated treatment. Explanatory narratives may arise from qualitative work with patients directly, on motivation to enter, and impact of, IOT. Relatedly, a significantly lower percentage of patients still in treatment had an illegal source of income to finance their lives, with the assumption that the reduction in illegal activities is connected with the reduced need for money to purchase drugs (Güttinger et al., 2003).

Another area of qualitative interest is the illustration by Güttinger et al. (2003) that whilst a reduction in drug-using contacts is positive, these contacts could not necessarily be replaced – and that therefore patients have a double fringe group identity: they are drug addicts living within society, but also receivers of heroin, albeit living away from the drug scene. This may lead to feelings of isolation post-IOT, narratives which may arise from qualitative work. Clinically this is something that should be explored psychologically with patients as they make progress within recovery. It is likely that one of the reasons indviduals begin taking and continue to use illicit drugs, historically, is due to feeling disconnected and perhaps ostracised from society; being involved in a drug scene may have alleviated these feelings. Feeling isolated in recovery may leave an individual vulnerable to relapse. Post-IOT trajectories require further exploration.

In Germany several papers were published on the long-term outcomes of those in SIH treatment. In this cohort of studies 54.8% were retained in treatment at 24 months and 40.4% were retained after 6 years; 47.8% had discontinued SIH and, as previously outlined, 11.7% had died within the observation period (Verthein et al., 2008). The six-year retention rate is promising. This study was particularly interesting

with regards to analyses conducted between variables that differentiated treatment drop outs to treatment completers. Of a range of demographic and other variables, there was a significant difference, with treatment completers at an advantage, across the two groups on the following variables at treatment outset: age (completers were older); treatment episode duration in days (completers longer); stable housing (treatment completers with a greater number); engagement in illegal activities in the past 30 days (fewer number of treatment completers); OTI health symptoms (fewer number of treatment completers); mental health score (treatment completers lower mean score); cocaine use (fewer number of treatment completers); benzodiazepine use (fewer number of treatment completers); sharing heroin equipment (fewer number of treatment completers); outpatient detoxification (greater number of treatment completers). These analyses are important as subsequent work (Verthein et al., 2008; Verthein, Schäfer, and Degkwitz, 2013) on long-term outcomes in Germany is based on this particular group of treatment completers who participated in SIH for 24 months.

It was also interesting that the greatest changes occurred during the first six months following treatment initiation; and that thereafter, the degree of improvement declined and health condition stabilised to a satisfying level (Haasen et al., 2007; Verthein et al., 2008). The researchers state that the central result of the two-year trial was an improvement of physical and mental health and a decline in illicit drug use under SIH treatment. Interestingly in these areas, the greatest progress had occurred already during the first months of treatment, with slight improvements or stabilisation thereafter (Verthein et al. 2008). In contrast, improvements to the social situation occurred continuously over the entire two-year period, indicating that stabilising the housing and employment situation and forging new social (drug-free) contacts required more time. This indicates the long-term evolving nature of recovery in this context; thereby it may not be appropriate to conclude at a short-term outcome point, and once again the need to document the SIH trajectory in detail, in its entirety and in its context is highlighted.

In the Netherlands researchers examined the four-year outcome data of SIH patients. The outcome variable for this study was unique; comprising response on a dichotomous, multi-domain response index, which encompassed physical, mental and social health, and illicit substance use (Blanken et al., 2009). Four-year retention was 55.7%. Response was significantly better for patients continuing four years of SIH compared to those who discontinued treatment: (90.4% versus 21.2%). Continued SIH treatment was also associated with an increased proportion of patients

without health problems and who had ceased illicit drug and excessive alcohol use: from 12% after the first year to 25% following four years of SIH treatment (Blanken et al. 2009). The study also examined reasons for discontinuation of SIH treatment and these predominantly included insufficient treatment response (according to the treatment staff; 21.2%) and repeated violation of house-rules (22.7%); these mainly involved attempts to smuggle heroin out of the treatment centre (Blanken et al., 2009). This is interesting and suggests that a significant number did not necessarily wish to utilise SIH as a means by which they could recover – interviews with patients on motivations to enter treatment, and treatment goals would be useful in this context. More positively 15 patients discontinued long-term SIH on their own initiative, of whom seven (10.6%) patients had opted for abstinence-orientated treatment. This is a positive result of longitudinal IOT and more generally, it would be useful to later interview patients whose discharge status is abstinence (including from treatment based opiates). It would be extremely useful to gauge whether abstinence can be maintained some time after finishing SIH. Generally gains made following the RCT plateaued and remained stable following 4-years of IOT. For example, at the end of the RCT, the percentage of patients without physical health problems had increased to 77.1%. During long-term SIH this percentage remained stable, at 81.5% following four years of SIH.

Whilst Blanken et al. (2009) illustrate some ongoing improvements from the first to the fourth years of SIH for the physical, mental and social health outcome criteria, due to the large effect at one year and the fluctuations over the following years of SIH none of the linear modelled time effect estimates were significant (Blanken et al. 2009). There were, however, significant further reductions in use of illicit heroin and cocaine (Blanken et al., 2009). Usefully the researchers also highlight that despite the success of SIH overall, it should be noted that there remains a group of chronic, treatment-resistant heroin users who neither respond to methadone maintenance treatment nor to heroin treatment or who discontinue long-term SIH. For these patients, other potentially effective pharmacotherapeutic treatments or innovative psychosocial interventions such as contingency management may be beneficial (Blanken et al. 2009). It may be useful to also interview patients who drop out of SIH or who continue to use illicit heroin, in order to try to understand the situation and experiences of these patients.

In Spain a follow-up to the RCT evaluated the health and drug use status of patients two years post RCT completion. As well as socio-demographic data, data was collected on drug use, health, and health-related quality of life. Data pre-

randomisation was compared to this two-year post trial data for three groups: those who were retained in SIH treatment (n=24; 44%); those who had discontinued SIH (n=12; 22.2%); and those who had never received it (n=18; 33.3%) (Oviedo-Joekes et al., 2010). N=62 patients were randomised in the original RCT and n=54 (87%) were included in the follow-up study (Oviedo-Joekes et al., 2010). This methodology was particularly useful; the researchers illustrate drug use across the three groups 24-months post-RCT completion. Results for mean days used heroin were: 2.42 (retained); 6.56 (discontinued) and 13.92 (never received). It was informative to discover that those who had at some point received SIH had a lower rate of drug use than those who had never received SIH, though within this cohort there is likely to be a mixed picture of those doing well (with little or no illicit heroin use) and those who have returned to a high level of heroin use.

Because of these potentially quite mixed trajectories within sub-samples, it is useful to explore trajectory in more detail qualitatively with a mixture of those who are retained and those who have discontinued SIH, to obtain a more detailed picture of trajectory pre, during and post-SIH in order to inform treatment practice. It would also be useful to explore discharge trajectories and summary statuses of those who discontinued treatment as it is likely that some patients discharged in a positive manner (e.g., decided to move to oral methadone or abstinence therapy) and some in a negative manner (e.g., a compulsory discharge due to violations of clinic protocols). The researchers themselves also stress the importance of highlighting the fact that the group of non-retained patients were discontinued for a variety of reasons and represent a mixed group who were not merely ‘non-responders’ (Oviedo-Joekes et al., 2010).

There was a significant reduction in use of heroin across all three groups on the within-group comparisons (baseline to two year comparisons), highlighting again the overall benefit of intensive treatment programmes. The researchers note in their discussion that there was a full-time multi-disciplinary team devoted to care for these patients. Both within and between group comparisons indicated statistically significant differences on the Addiction Severity Index (ASI; psychiatry scale) and SF12 (short form general quality of life measure) scores for this group (Oviedo-Joekes et al., 2010). It was interesting that the group who had discontinued SIH treatment significantly reduced their use of cannabis from baseline to two years (and were the only group with significant differences here). Once again this highlights the need for further exploration of discharge summaries and statuses and patient experience of treatment, recovery and discharge. Especially because - on the other hand - those

who had never received SIH increased use of cannabis at two years (compared to baseline) – this was a marginal, non-significant increase however.

The results of the Oviedo-Joekes (2010) study also illustrated that those currently on SIH were the only group that sustained at two years, their marked improvement in health following nine months of treatment during the trial period. This statistically significant improvement applied to HIV risk behaviours; mental health outcomes; and Addiction Severity Index outcome scores. It may be that even longer-term regimens are required for such an entrenched population of heroin users for changes to be more permanent post-treatment (i.e., for significant differences to also occur in the discontinued group). It is also worth noting that the profile of the Spanish patients was slightly unique in the sense that all patients were those using heroin and cocaine together (which is known as 'speedballing'). Differences like these highlight again the necessity for follow-up and qualitative research with patients in each region, but which perhaps cannot always be generalised to the wider SIH research pool. It may also be that SIH is an effective way to attract disengaged, entrenched patients to treatment. Along a similar argument Oviedo-Joekes el al. (2010) state that urgent measures are needed to make available other substitution options, aside from methadone, in order to attract and retain opioid users into treatment. A patient may initially be attracted to the idea of receiving free additional heroin, and then following a course of IOT treatment have made substantial changes to their drug using and risk behaviours. The argument being that even those initially demotivated to enter treatment may become motivated to make change to illicit use behaviours during the course of IOT – and hopefully beyond. This could be the exact trajectory of one of the Oviedo-Joekes (2010) patients, and qualitative case study research could identify and illustrate this.

An additional research paper conducted some interesting analyses with the German cohort – focussing on those who switched at 12-months from methadone treatment to heroin treatment. Those methadone patients with adherence to the first year of treatment, could opt to switch to diamorphine treatment at this point. This research investigates the effect on patients' health and drug use (Verthein, Haasen, and Reimer, 2011). Of the N=434 patients, who started the second year of study treatment, n=90 were methadone to diamorphine switchers, relative to the n=344 who received diamorphine for two years. To date this was a less explored area; those who switched from methadone to diamorphine during the trial; and investigation with this group is useful. The majority of these patients participated in psychosocial care regularly (at six months: 94.3%, at 12-months: 92.2%, at 18-months: 92.8%, and at

24-months: 84.7%. It may be that the longer patients remained in treatment the less they needed these services).

After switching to diamorphine, significant improvements in health and drug use behavior (reduction in drug using days and increase in abstinence rates) are observed in the course of one year of diamorphine treatment and match the pattern of those in the heroin condition (Verthein, Haasen, and Reimer, 2011). The results of the course of methadone–diamorphine switchers are a methodologically independent contribution toward confirming the positive effects of diamorphine treatment for difficult-to-treat heroin dependent patients (Verthein, Haasen, and Reimer, 2011). This study supports the hypothesis that changing from optimised methadone treatment under the conditions of the clinical trial to diamorphine treatment is associated with improved outcomes. This study also demonstrates the benefit of diamorphine treatment specifically, in the context of the optimised nature of (e.g., ancillary services within) the trial. The combination of studies and debate indicate that both the administration of diamorphine and the intensive, holistic, and structured nature of treatment contribute to effectiveness, however, the relative contribution of each is still not clear.

A further (German) research paper from this work examined social integration by means of the Opiate Treatment Index (Darke, 1991) and the European Addiction Severity Index (McLellan et al., 1992). In these analyses there were significant improvements in all domains following long-term treatment. The percentage of patients employed or currently working had increased three-fold up to 40% after four years (Verthein, Schäfer, and Degkwitz, 2013). We can view this finding in the context of Rehm et al. (2001) who also found a significant improvement in this area; 73% were unemployed at baseline, relative to 45% at 18-months. Moreover, living situation and leisure behaviour improved, and criminal activities markedly declined. The authors assert that the main influencing factor for successful social integration following four years of treatment is the ability to work (Verthein et al., 2013). Of relevance to the current thesis, the researchers argue that their results demonstrate that processes of social re-integration of drug users take time (Verthein et al., 2013).

2.9. Some limitations of Randomised Controlled Trial research

In an American Psychological Association (APA) feature article Clay (2010) argues that RCT patients typically do not represent the population as a whole, for example, results from RCTs may not apply more generally. Clay (2010) argues that even if they did, it's impossible to tell from an RCT which subset of patients actually benefited from the intervention being studied. Clay (2010) explains that critics don't want to reject RCTs altogether; rather, they want to supplement their findings with evidence from other methodologies, such as epidemiological studies, single-case experiments, historical controls or clinical experience. Qualitative research amongst patients is a useful addition to RCT research on this basis. Clay (2010) outlines the perspective of Steven J. Breckler, executive director of APA's science directorate, which is that patients in RCTs tend to be a rarefied population that are not representative of the real-world population an intervention would eventually target. Breckler's (Clay, 2010) comments are that the individuals who enrol on drug trials are patients who have probably, to date, tried everything else, and are desperate for some kind of new treatment. Breckler (Clay, 2010) also makes the point that researchers winnow out would-be patients who have exclusion criterion co-morbid conditions. In the case of SIH treatment RCTs, it may not be that the results are not generalisable, as such, but that the pre-baseline condition – as outlined; having reached a point of potential desperation to try something new – may mediate initial engagement and then eventual efficacy across patients in the trial.

As highlighted by Breckler (Clay, 2010) there is a population of people who would never have enrolled in an RCT to begin with (e.g., who are not as desperate or motivated), and it may not be possible to generalise results to this group. Whilst SIH is recommended as a second-line treatment, inclusion criteria for the trials, and criteria for receiving an injection on any given day also stipulated that patients not be pregnant, and not intoxicated (for example through alcohol consumption) respectively. Arguably controls on both of these aspects of life automatically reduce chaos and distress amongst this sample of patients. Uchtenhagen (2015) further highlights that effectiveness of treatment under real-world conditions differs from efficacy under experimental conditions, again indicating a question mark over the generalisability of RCT research to clinical practice. It was interesting that in the McCusker and Davies (1996) case control study, neither treatment groups ceased use of illicit heroin, or other drugs such as crack. This perhaps suggests an effect from simply enrolling on to an RCT specifically, rather than the collection of data from

those already in respective treatment regimens. This again suggests the power of the RCT itself on affecting change amongst patients. Qualitative research with patients may add value to RCTs which may be subject to these conceptual issues.

2.10. Qualitative studies with injectable opiate treatment patients

In addition to the quantitative outcomes measured across RCTs there has been a small amount of qualitative work conducted with IOT patients to date (outside of the UK IOT sample) – one previous to the qualitative work in the current thesis, and one which was published after design of the thesis and data collection, but prior to write-up of the thesis, thus did not inform design of the studies within this thesis. These will be outlined forthwith.

Firstly, however, it should also be acknowledged that there are a number of qualitative research studies which focus on various aspects of the patient experience of methadone and buprenorphine OST, examples of which should be briefly mentioned. Gourlay, Ricciardelli, and Ridge (2005) examined users' perceptions of methadone treatment in the context of their personal and social circumstances, in Australia in 2003, and found that perceptions differed according to their self-concepts. What constitutes good quality of life during methadone treatment was qualitatively explored by De Maeyer, Vanderplasschen, Camfield, Vanheule, Sabbe and Broekaert (2011) in Belgium. Themes emerging were social relationships; holding an occupation, feeling good about one's self, being independent, and having a meaningful life (De Maeyer et al., 2011). Stigmatisation, discrimination, dependence on methadone and the drug's paralysing effects on one's emotions were mentioned as common negative consequences (De Maeyer et al., 2011).

These findings are useful in the context of the heroin use history chapter of the thesis, where failings of conventional treatment are explored. In Scotland, Best, Gow, Taylor, Knox, and White (2011) qualitatively (though using questionnaires) examine patients' accounts of recovery from heroin or alcohol dependence. Results showed that users viewed recovery as a transcendence from dependence, and that recovery was an ongoing process rather than a time-defined milestone (Best et al., 2011). These findings accord well with academic debate in the field of what constitutes recovery, however, a UK picture is required, and with particular reference to the unique experience of injectable opiate treatment.

In terms of injectable opiate treatment, a qualitative study in Spain (Romo, Poo, and Ballesta 2009) examined patients' and relatives' attitudes, opinions and experiences of IOT, following completion of the programme and subsequent shift to receiving IOT in a therapeutic environment. The study was conducted in the final months of the RCT. Researchers within this study employed an ethnographic approach (using observation and interviews) and analysed the data using grounded theory, including 21 patients and relatives. Researchers in the study spent time at the clinics, purportedly establishing rapport and gaining trust from patients before recruiting an intentional sample to interview. The researchers interviewed family members, a method which was proposed to triangulate data collected from patients. Romo et al. (2009) state that they held the interviews outside the hospital so as to differentiate themselves from the actual clinical team, and also to provide the respondents with a relaxed atmosphere to express their ideas, opinions and expectations. It is questionable whether the patients saw the researchers as separate to the clinical team, since the trial was still running and researchers had spent time in the treatment centre prior to recruitment.

Romo et al. (2009) provide sound rationale for the conduct of qualitative research with patients to gauge their perspectives, as an important addition to the IOT RCTs. Romo et al. (2009) make the point that – to date - in the various studies examining a medicinal heroin prescription (regardless of the results obtained), the opinions of the people involved, including those of their families, have been ignored. Romo et al. (2009) highlight that this absence has been illustrated in well researched programs, such as the methadone trials, where they highlight lack of reference to the perceptions of the users themselves (Trujols and Perez de los Cobos, 2005; in Romo et al., 2009). Romo et al. (2009) further assert that this is common in other areas of medical research, contending that medicine is slowly beginning to recognise the importance of the perspective of the patient in health care. Romo et al. (2009) suggest that more investigations are needed to understand the importance of the symbiotic nature of health need, and patient satisfaction (Asadi-lari, Tamburini, and Gray 2004; Romo et al., 2009). Overall, Romo et al. (2009) aimed to provide a culturally relevant account of patients' perspectives and understanding.

The overall theory created from this data was that through the treatment process and by administering heroin therapeutically patients were able to break the habit of consuming heroin illicitly. This changed the significance attached to the substance, which meant that patients could make improvements in wider areas of life such as family, work, physical and mental health (Romo et al., 2009). The conceptualisation

from substance addiction to chronic illness was the main narrative from this work, and allowed previously treatment resistant heroin users to integrate in to society again (Romo et al., 2009). The researchers outline that the social consequences of considering heroin addiction as a chronic illness occurred as a result of the changes perceived in social and family relations, in the workplace and, in social acceptance experienced by both patient and family. Social acceptance seems to be key to this theme and to recovery in this context. Narratives changed from 'illegal poison' to 'legal medicine' (Romo et al., 2009) and this change in perception may link to more adaptive self-perceptions, creating confidence and motivation.

Family purportedly began to see patients as 'chronically ill' (Romo et al., 2009) again illustrating wider acceptance of the patient's predicament and perhaps how patients are then treated. One mother drew parallels between a diabetic patient who has to take insulin to be well (Romo et al., 2009). Another narrative was that by injecting in a clinical facility it is less exciting than taking heroin illicitly. Patients report psychological and physical health improvements and were grateful for the holistic nature of treatment. Flexibility, choice and involvement in service delivery were valued. As illustrated by Neale et al. (2012) towards the end, a sense of hope is apparent – from both families and patients.

Narratives collected may have been slightly limited by the fact that patients were speaking about their current situation (in the latter stages of treatment) rather than the whole trajectory of experiences, such as from those who were ejected from treatment, those in long-term IOT, and those who had progressed away from IOT, and were either abstinent or stable in oral treatments. Where it is possible to access this range of patients - and these more complete narratives, representing the whole trajectory of experiences, would be useful. Additionally, all narratives reported were positive, and it would be worthwhile to conduct a study which included the less positive narratives or elements of treatment that patients found difficult. However, Romo et al. (2009) do acknowledge – and suggest - that the data they collected represent an exploratory picture of users' experiences with limited generalisability, but can easily form the basis for further qualitative research in other clinical trials with heroin. To provide evidence of the need for a more complete picture of patients' perspectives – including less positive narratives - Dursteler-MacFarland et al. (2006) explored patients' perspectives using questionnaire data and found that patients ascribed numerous symptoms to heroin treatment, with the most frequently reported including skin itching, sweating, and constipation. Among potentially more problematic complaints included irregular menses, cognitive deficits, muscle twitches,

laboured breathing, pains in the cardiac region, and temporary paralysis of limbs (Dursteler-MacFarland et al., 2006).

Romo et al (2009) illustrate that whilst focusing on the addictive or therapeutic properties of particular chemicals has engaged quite a lot of research energy, it may not be the critical issue in neither the aetiology nor treatment of drug dependence. Further, the successful use of medically prescribed heroin in reducing the problems associated with addiction suggests that it is not primarily the pharmacology of the drug which is the issue in an effective treatment (Bell et al., 2002). This type of qualitative data provides greater insight into the social aspects of recovery, helping to ensure the success of such treatments in certain groups of heroin users (Bell et al., 2002).

The next qualitative research project with SIH patients was by Blanken et al. (2010). Here it was assumed that the outcome of the RCTs could not be fully understood only by the quantitative trial's invoked difference between co-prescribed heroin - without the need for illicit heroin use (experimental condition) - and ongoing methadone maintenance treatment and the use of illicit heroin (control condition) (Blanken et al., 2010). Thereby it was recognised that supervised heroin treatment did not only offer patients pharmaceutical grade heroin, it also radically changed the situation in which heroin was acquired and administered by the patients (Blanken et al., 2010). Patients were those participating in one of the SIH trials in the Netherlands and involved N=27 patients. Interviews took place: pre-SIH treatment; during treatment (at six or 12-months); and several months following SIH. These interviews were specific and addressed non-prescribed drug and methadone use (amount, route of administration, perceived availability, rituals); inter-relatedness between heroin and other drug use; setting (places, persons, times, situations, etc.) and (positive and negative) effects of drug use; living situation and daily activities (employment, illegal activities, sex work, etc.); and physical and mental health, and social functioning.

Patients narratives were not uniform; some were very positive about SIH, and some were negative; complaining that they were overly lethargic, and others still, cited allergic reactions (Blanken et al., 2010). Once again the restrictions around opening hours were cited. Patients derived comfort and stability from the assured availability of heroin; this also linked to feedback patients received from the outside world which was that they seemed less agitated. Some patients spent the money they saved on books and computers, and others on cocaine. Others were able to cease prostitution and crime.

There was an important distinction drawn between those who already had a relatively structured day – and therefore were sometimes inconvenienced by the need for twice or thrice daily attendance – and those who had no routine and structure at baseline - and who therefore derived routine and stability for their lives through mandatory clinic attendance. In one of the earlier longitudinal Swiss studies researchers found that patients who give up on their treatment after only a few months did so mostly because of difficulties they encountered with the rules and regulations imposed by clinics or because of lack of compliance (Rehm et al., 2001). Other themes within this study involved the positive reinforcing effects of heroin, and treatment as a negative reinforcer (i.e., alleviates both negative mental states and physical symptoms that would be experienced without this treatment (Blanken et al., 2010) linking the success of IOT back to theories of behaviourism (Watson, 1913).

In Canada Oviedo-Joekes (2014) also conducted qualitative research with patients on their trial. The researchers hypothesised that the demanding nature of the IOT regimen may mean that adherence to IOT is compromised, arguably affecting overall effectiveness of the treatment. Oviedo-Joekes (2014) cites a social researcher's earlier recommendation that calls for qualitative research to understand how and why a heroin treatment prescription works so effectively (Bourgois, 2002). Oviedo-Joekes (2014) highlight a number of studies indicating the need for an evaluation of the IOT intervention's process; including outcomes reported by the patients themselves to guide clinical decisions and demonstrate effective engagement with person-centred clinical care (Oviedo-Joekes et al., 2014).

Oviedo-Joekes (2014) illustrate that there is only a small research pool of qualitative research examining patients' perspectives; and interviewed 29 patients from the North American IOT trial (Oviedo-Joekes et al., 2008) using a phenomenological framework and thematic analysis to analyse the data. Oviedo-Joekes (2014) highlight the usefulness of a qualitative study with patients in order to understand the effectiveness of this treatment; the impact of it on patients' lives; and – importantly – the model of care. Understanding the model of care and how patients relate to it is vital for such a unique programme of treatment. The research sample involved patients who had gone beyond the 12-month period of IOT treatment to avoid interference with this study, yet appeared to be conducted while patients were still in IOT, and not long after the IOT trial had completed. Interviewing patients some time after the RCT has completed may provide more time and space for reflection on the overall recovery journey, pre-IOT, post- and beyond.

Research interviewers within Oviedo-Joekes (2014) had met patients several times previously prior to interviewing, during data collection for the Oviedo-Joekes (2008) IOT RCT. It may be useful to employ a research interviewer independent to the main RCT; this may yield more honest and reliable data from patients. Patients were stratified on several criteria, one of which was the inclusion of those who had received the methadone arm of the RCT treatment; patients cite disappointment with this treatment allocation. Patients do, however, cite positive aspects to this form of oral methadone treatment with favourable perceptions about the quick titration time and the availability of ancillary services (Oviedo-Joekes et al., 2014).

Overall themes were that patients found the supervised delivery model stringent, yet it provided valuable stability to their lives (Oviedo-Joekes et al., 2014). Interestingly, the researchers applied a gender stratification to the reporting of their themes; with females discussing the adjustment required for the clinical setting; males too focussed on the challenging clinic schedule, and more specifically, the impact of this on their employment abilities (Oviedo-Joekes et al., 2014). Where possible this makes the case for a flexible schedule, involving either early morning or late opening access, for before or after work. Support for this is provided in the longitudinal study in the Netherlands – whereby following six years of treatment patients were more likely to be unemployed than at baseline, or following shorter-term regimens (Güttinger et al., 2003). The researchers argue that patients may find the intensive, highly structured nature of treatment too cumbersome alongside employment, and that employers are probably very unenthusiastic about employing an individual in IOT (Güttinger et al., 2003). If this is the case then it is a matter that should be explored in the context of holistic treatment and psychosocial support programmes, since reintegration and recovery may meet a plateaux if patients are unable to access employment during long-term treatment.

Oviedo-Joekes (2014) found that some patients were motivated to enter IOT to obtain ‘free heroin’, whereas others wanted to get their life back. Patients express wanting to still be in IOT (indicating that some of them no longer were). Some themes mirrored the quantitative work across the various RCTs (e.g., Strang et al., 2010 and Oviedo-Joekes, 2008) such as improvements to housing, health, illicit drug use, and financially. Patients also spoke favourably about their interactions with healthcare professionals during IOT, with only a few citing negative interactions. Bias may be apparent, with motivation for more positive reporting, since researchers - including qualitative interviewers - were those from the original Canadian IOT RCT research team. Interestingly, patients assigned to OM treatment cited preference for this

treatment within the context of NAOMI (the Canadian study; Oviedo-Joekes et al., 2008) because services and staff were more easily available – i.e., no waiting times, and pharmacy available on site. This patently illustrates how different this version of methadone treatment was to what had failed for so many heroin users internationally previously.

Patients stated that the titration protocol was preferable; that physicians increased doses in a manner that was more appropriate – allowing the arrival at a more stable and comfortable dose quickly (Oviedo-Joekes et al., 2014). In more detail patients explain that this was critical at the beginning of treatment as it reduced withdrawal and illicit heroin use. This sheds light on previous research and commentary (Metrebian et al., 2015 and Uchtenhagen, 2015, respectively) illustrating the improvements in the OM conditions, which were surprising for a sample with such a prominent failure rate during previous OM episodes. It should be noted however that there was a difference in Strang et al. (2010) and Oviedo-Joekes (2008)'s inclusion criteria, with the former including those in OM immediately prior to enrolment in IOT and the latter including only those who had not been in OM treatment in the previous six months prior to IOT enrolment.

As well as the recommendation to have flexible clinic opening times (also separately recommended by Oviedo-Joekes, 2014) an optimised and reliable methadone treatment programme appears to be beneficial in light of the Oviedo-Joekes (2014) findings. Some patients spoke about finding injecting in front of other people difficult. Patients also highlighted positive perceptions of the quality and purity of the medicinal heroin. Interestingly patients mentioned that they had just started to stabilise when IOT came to an end, and that they thought that they may have been able to make further gains within recovery (in wider aspects of life, e.g., education) if they could have remained in IOT for longer. An examination of a long-term IOT trajectory would clearly be useful and beneficial to investigate the patients' hypotheses in this respect. Narratives on the ending of IOT encompassed gratitude and hope (Oviedo-Joekes et al., 2014).

In discussion, Oviedo-Joekes et al (2014) report that one area of consideration is filling the time that was previously spent acquiring heroin. As Oviedo-Joekes et al (2014) highlight in the context of the Andalusian patients who also expressed that their needs beyond heroin became evident, such as their lack of skills to find employment. This indicates a need for holistic care, during and beyond IOT, to potentially reduce the risk of relapse. Patients in Oviedo-Joekes (2014) expressed

the need for vocational and skills training in the context of being confronted with the need to plan for their future.

In synergy with the parent study's (Oviedo-Joekes, 2008) findings, use of cocaine did not decrease; this was conferred through patients' reports in the qualitative work (Oviedo-Joekes, 2014). This offers some validation of the honesty of reporting amongst IOT patients conducting qualitative interviews about their experiences. Overall, patients were grateful for a period of stability, where they could engage with life beyond the level of thinking about how to acquire a drug, and were happy to have been able to contribute to IOT's evidence base (Oviedo-Joekes et al., 2014). That patients saw the treatment as a research trial specifically suggests that they may have seen it, and engaged with it, differently to that of how they would engage with treatment in clinical practice. This adds weight to the idea that results from RCTs cannot necessarily be directly generalised to clinical practice settings.

Previous studies outline much of what the quantitative measures revealed during the IOT RCTs – an improvement to family relations, reduction in crime activities, use of illicit drugs, improvements to housing, etc. It would be useful to go beyond these outcomes and investigate the trajectory of experiences, intricacies of treatment trajectory and associated psychology, including the patients' own conceptions about recovery - and what recovery means to them in the context of an IOT regimen. Feelings about, and goals for, the future should also be explored, and this was topical with the threat to IOT in the current (that is, at the time of the research's inception) day.

2.11. Literature review summary and rationale for current research

As well as introduce addiction and heroin, this literature review outlines the RCTs conducted to date, the qualitative research in this area conducted to date, includes research on quantitative patients' perspectives, examines long-term outcomes, secondary outcomes, and includes information obtained through the three systematic reviews. Throughout the review, areas of possible further inquiry are illustrated, arising from the research studies conducted to date.

The most common routes in to treatment for patients in 2013-14 were self-referrals. Through interviewing patients about their complete treatment trajectory including

route in to treatment it is possible to obtain useful information about what attracted patients to IOT, and what their pre-IOT situation and status was. It is useful to uncover pre-treatment motivations and goals, and examine how these may evolve through treatment. Hartnoll et al. (1980) argued that users may be reluctant to approach treatment services, feeling that it would be 'giving up' and that there are too many restrictions and conditions on IOT. If these narratives are relevant to the UK IOT sample these will likely arise through qualitative interviews about pre-treatment perceptions and motivations. Patients will be asked about their goals and motivation upon entering IOT.

In Neale et al. (2012), treatment history was a theme that patients discussed in relation to recovery. This was likely of great pertinence to the IOT trajectory and therefore should be addressed in the qualitative exploration of this trajectory. This forms a specific line of inquiry in the thesis (in study two the patients' heroin use and treatment history will be explored). Neale (2012) did not elaborate on patient typologies and their current situation, and this will be addressed in the qualitative work within the thesis.

More detail about the pre-treatment lives of heroin using and heroin treatment samples might be useful in order to explore potential patterns and themes amongst this unique group. This is of particular use to this unique sample of users for whom methadone has historically failed – an exploration of treatment history may give more clarity to this situation. We know that methadone failed for this group but we do not know why. Perneger et al., (1998) suggest that the inclusion criteria of the trials presented a biased control group. It may also be the case that repeated failure in treatment may have created a strong cognitive and emotional desire to strive for change in a new programme. This increased motivation would invariably effect efficacy, and as such an exploration of the experience of referral to IOT, motivations and the pre-IOT situation would be useful. The work by Hser (2007a) illustrates the importance of obtaining a sample's pre-treatment history and how they came to use heroin habitually.

It may be argued that research findings with conventional OST patients cannot be generalised to IOT patients, and particularly not RIOTT patients; some of which who remained in IOT for episodes of three years and more. Hartnoll et al. (1980) also highlight the potential relevance of pre-treatment hopes and expectations on outcome (the suggestion in this context being that illicit use may be a behavioural representation of frustrated hopes). The idea of patient typologies was also illustrated

in the Hartnoll (1980) study whereby methadone patients were polarised by being users of large amounts of heroin through OST or not using illicitly at all. The heroin group tended to use smaller amounts but more regularly. Responder status during RIOTT will be taken in to account in the analysis of patients in the current thesis; through case note review data and typologies. Thereby the qualitative work with patients in the current thesis is interpreted in the context of the RIOTT trial.

In the context of general recovery, the substitution hypothesis stated that one addiction is simply replaced with another. This idea may be examined with UK IOT patients through a long-term exploration of treatment trajectory, including the patient's current situation and current drug and alcohol use. Changes in treatment philosophy in the wider recovery discourse (such as the move from abstinence to harm minimisation) are important and it would be useful to explore how IOT patients view recovery – does recovery mean harm minimisation, abstinence, or something else, to them? This forms a specific line of inquiry in the thesis (through exploration of trajectory, perceptions, and direct questions about recovery and what recovery means to patients in this context).

Haasen et al. (2007) demonstrated statistically significant differences across clinic sites and a number of researchers (e.g., Wilks, 1989) illustrate the importance of the social, cultural and clinical considerations. Patients in some other countries have been interviewed, and there is a need for qualitative work with UK IOT patients; as findings from other countries cannot necessarily be generalised to the British context. Similarly, the benefit of peer support in recovery generally has a large evidence base, discussion of which is outside the scope and relevance of the current thesis; however, it must be recognised that by its very nature IOT occurs in a social context (with clinics open every day of the year – sometimes allowing for up to three administrations per day; two in the UK). This will be addressed in the current thesis (through an exploration of patient experience of the clinic and other patients and any impact this may have had on recovery).

Clearly a topical and very prominent (e.g., Uchtenhagen, 2015) debate is how much effectiveness is attributed to administration of heroin and how much is attributed to ancillary psychosocial services that are requisite to SIH treatment. This was the case even in earlier research – for example, McCusker and Davies's (1996) research stipulated that heroin treatment patients were required to attend more frequent meetings with their keyworker. This intense therapeutic contact was a feature of the newer SIH clinics. It may be proposed that requisites such as these are implicated in

treatment effectiveness and recovery. IOT potentially allows those who may not have otherwise engaged in this type of support again to benefit from these wider aspects of the programme which lead to more long-term and sustained recovery. Through exploration of the complete trajectory these nuances may be illustrated. The inability of the RCTs to separate the effects of treatment drug administration from the effects of additional support services is relevant to all of the RCTs evaluating SIH; since all offered this intense holistic programme of support. Through qualitative interviewing with patients the effect and role of psychosocial and other holistic support will be discussed.

McCusker and Davies (1996) also highlight the impact of unwelcome dose reductions. Dosage and its impact will be explored within a discussion about treatment procedure in qualitative work with IOT patients in the thesis. Demaret (2015) highlight resistance to additional methadone – the qualitative work on treatment procedure will explore whether this is the case, and importantly, why, for UK patients. Strang et al. (2015) highlight that learning needs to be extended to the process and influences on remission of illicit drug use (and elimination of related problems), and, more importantly, enhanced quality of life and social functioning of patients. Verthein et al. (2011) examine those switching from methadone to diamorphine during their trial, and the impact of this switch will be explored with the UK sample, qualitatively and in the context of the case note reviews.

March et al. (2006) specifically propose that SIH is efficacious for a variety of reasons, hence the control group making gains as well as the heroin group is on the basis of: the high ratio of staff to patients; the high motivation of staff working with this group; higher methadone doses; medical, psychological, social and legal support; and the possibility of obtaining heroin following the trial phase of the treatment. These are also highly relevant and important aspects of treatment that are likely not present in general OST practice, and it would be useful to identify if patients themselves attribute gains made during treatment to these factors. This may arise from qualitative research on treatment trajectory and perception.

Hartnoll et al. (1980) state that they are aware that patients modified drug use prior to attending the clinic for testing, or failed to attend to conceal drug use. Hartnoll et al. (1980) suggest caution over the reliability of urine drug screening as an indicator of drug use. Qualitative work with IOT patients by a researcher completely separate to the RIOTT research team, and several years following the trial may elicit honest and open responding by patients, including the less socially desirable aspects of

patient experience of IOT. Criticisms of other qualitative work conducted with IOT patients to date is that researchers conducting this work were sometimes part of the original RCTs research team. This is not the case in the current research.

The theory of relapse prevention is also likely to be incorporated in to psychological work during pharmacological treatments – it is necessary to conduct qualitative work with this population in order to understand psychological processes involved in relapse prevention in this context. Edwards (1987) highlighted that relapse prevention is individualised and that treatment must be person-centred. Qualitative research is needed to capture the individualised nature of each patient's trajectory. From this perspective, quantitative research would not be a good fit in trying to understand the nuances and specifics in an individual's recovery journey through this niche treatment.

Relatedly how the patient perceives the outside world (including those they are close to) view their addiction and injectable treatment may impact the individual's recovery journey. Romo et al. (2009) find social acceptance (through work and family relations) to be a pertinent theme in their interview work with IOT patients. The qualitative work within the thesis will explore patients' social and familial relationships and perceptions, over the course of the IOT trajectory.

Metrebian et al. (1998) showed that 36% chose injectable methadone treatment over injectable heroin treatment and that few patients receiving injectable methadone were using illicit opiates. These findings are interesting, and since injectable methadone is unique to the UK treatment system, an exploration of patient perceptions of this treatment is useful. Interviews will be conducted with those who at some point received injectable methadone, in addition to patients who received injectable heroin. Metrebian et al. (1998) also highlight that different changes occurred at different stages of the IOT trajectory, however we are not aware of why this was; qualitative interviews encompassing the treatment trajectory might yield more information on this.

In relation to treatment timeline, there have been suggestions through research (e.g., March et al., 2006) that initial gains may plateaux in longer-term analyses, and this will be explored through qualitative interviews – which are conducted a number of years post-the UK IOT - and also through quantitative descriptive analyses which will be conducted on long-term (up to three years) outcomes, and presented within this thesis. Oviedo-Joekes (2009) find that patients did not spend the extra money saved

through IOT on other drugs, and the drug-using profile of patients in IOT will be examined thoroughly in case note reviews and qualitative interviews within the thesis.

Overall, research conducted to date does not provide a complete experience of patients' trajectory and experience of IOT; and the thesis is well placed to explore this. As indicated, inviting patients to share their narratives through a qualitative interview invites a more collaborative approach to data collection. During the UK RCT, patients may have felt that they were required to share their perspectives in exchange for treatment medication. Patients' aspirations and expectations may be expanded upon in more detail through in-depth interviewing. Groshkova et al. (2013) acknowledge that it is important to note the dynamic nature of aspirations; and that patients who had moved on in their aspirations sought further, broader recovery. Qualitative research will explore this trajectory of aspiration and recovery in detail with patients. Semi-structured interviews will allow patients to speak more freely about elements of individual importance.

It will be useful to investigate the post-IOT trajectory with available patients for whom this applies. In the Dutch trial (van den Brink et al., 2003) found that after 12-months, an interruption of HAT for two months had a negative impact: 82% of the patients who were completers and responders deteriorated substantially. Qualitative research can investigate the effect of treatment interruptions and patients' perspectives and experiences of life post-IOT.

Qualitative research conducted to date, has included relatively small sample sizes, has been in countries outside of the UK population, has been at the time of the trials, and in some cases conducted by members of these trials' research teams. The current research will explore the entire trajectory, with a researcher completely separate to the RIOTT clinical team, a number of years after the trial completed, in the context of a UK social and political situation. It will utilise a larger sample size, illustrating the range of typologies and discharge statuses, and will outline the negative as well as the positive narratives when these arise. Uchtenhagen (2015) usefully highlights the point made by Miller that the cessation or reduction of addictive behaviour is often a good starting-point in examining a patient's recovery, but if that is where treatment ends, it may be finishing just when a person needs help the most (Miller & Miller, 2009).This will be explored.

Overall, the mechanisms of why SIH was effective for the UK sample remains unexplored. On the basis of this need and the specific recommendations derived from

this literature review, the thesis aims and objectives follow (in chapter three – Methodology).

Chapter 3 – Methodology

Following a full literature review of previous IOT research, which allowed identification of knowledge gaps in research conducted to date; the following aims and objectives were derived which guide the following seven chapters of analysis.

3. Thesis aims

Overall the thesis will contribute to the scientific understanding of injectable opiate treatment, and specifically, determine the role of IOT in the patient's overall journey of recovery.

The primary aim of the research is to determine the long-term treatment trajectory and to describe the experience of patients receiving injectable opiate treatment (IOT).

Study one determines the long-term treatment trajectory of patients receiving IOT and study two describes the experience of patients receiving injectable opiate treatment. Methodology for study one will be outlined, followed by methodology for study two.

3.1. Study one

3.1.1. Overview of study design

Method: Study one involves a longitudinal descriptive exploration of patient trajectory during the RIOTT trial. Initial charts, graphs and analyses include all N=127 patients who participated in this trial, for whom complete data was available. The study begins by outlining patient movement during IOT using flowcharts for each treatment group and describes outcome data. Following six months of assigned treatment (either SIM; SIH; or OOM) patients were able to move to one of the other treatment groups; for example, if a patient started on, and completed six months of optimised oral methadone (OOM) treatment, they could move to SIH at six months, and may then, for example, have continued on SIH for another 30 months. Another patient may have completed six months of Supervised Injectable Methadone (SIM) treatment, then

moved on to OOM for six months, and then on to SIH for the remaining 24 months. Because of the high level of movement between treatment groups over the 36 months that data was collected, inferential statistics were not conducted on this data. It was decided that the most useful way to meaningfully illustrate this data - in consistency with study aims - was through the use of flowcharts chronicling the trajectory of movement for all patients, and descriptive outcome data.

Analysis plan: Following these initial representations of patient trajectory through IOT, statistical analyses by means of t-tests were conducted on outcome variables, with duration of treatment episode (baseline - 0 months; three months; six months; nine months; 12 months; 15 months; 18 months; 21 months; 24 months; 30 months; 33 months; and 36 months) as the independent variable. See section on analysis for further detail. Duration of heroin treatment episode was defined as the total time spent in heroin treatment during the trial. In other words, if, for example, a patient completed six months of SIH treatment, then switched to oral treatment for a period of three months, before returning to heroin treatment for an additional period of 12 months, heroin treatment episode duration was coded as 18 months in this case. Mapping and descriptive statistical data address objectives 1-5.

3.1.2. Study one aim

To determine the long-term treatment trajectory of patients receiving IOT.

3.1.3. Study one objectives

1. To illustrate broad patient outcomes over 36 months for those receiving Injectable Opiate Treatment (IOT);
2. To determine the length of time patients receive IOT and whether they move away from IOT to oral treatment routes or abstinence;
3. To determine treatment outcome (including drug use status, health status, social functioning status, discharge status) of patients receiving IOT (SIH and SIM) long term;

4. To describe IOT received (including mean dose, number of injections per day);
5. To determine whether IOT treatment duration affects treatment outcome status (including drug use status; alcohol use status; health status and social functioning status).

Objectives one and two will be achieved through descriptive statistics of UK IOT patient outcomes, and flow diagram mapping participants' movement through treatment. Patients were assigned to one of three treatment groups and patient movement is chronicled using flowcharts, in order to illustrate patients' treatment trajectory. Objectives three to five will be achieved through descriptive statistics of UK IOT patient outcomes.

3.1.4. Overview of analysis

The prediction across all outcome variables (use of illicit heroin, use of crack, alcohol use, crime status, social functioning status, and quality of both physical and mental well-being) is two-sided; that the length of treatment duration will affect status or outcome. For the Short Form 36[2] (SF36; Ware and Sherbourne, 1992) quality of life data (mental and physical well-being) higher scores indicate better status and for the Opiate Treatment Index[3] (OTI; Darke, 1991) data, lower scores denote better status.

All data refers to those patients who ever received injectable heroin treatment. Treatment episode may be several different episodes combined to form one period of time (e.g., an initial SIH treatment period of six months, with a break for another treatment or time spent out of treatment, followed by another 12 months of SIH treatment; hence treatment episode is 18 months, for this patient).

[2] The Short Form 36 (SF36) questionnaire was designed to survey health status in the Medical Outcomes Study and was designed for use in clinical practice, health policy, and general population surveys (Ware and Sherbourne, 1992).

[3] The Opiate Treatment Index (OTI) is a structured interview designed to provide a measure of the effectiveness of drug treatments; it measures six treatment outcomes including drug use and social functioning. Some studies employ use of the sub-scales only and for the RIOTT and UK IOT data the social functioning sub-scale was utilised (Darke, 1991).

3.1.4. Hypothesis

Duration of heroin treatment episode will affect treatment outcome status.

3.1.5. Method

3.1.6. Research design

The design of study one was within-subjects.

3.1.7. Variables

The independent variable was duration of heroin treatment episode (with up to 12 levels: baseline - not yet received; three months; six months; nine months; 12 months; 15 months; 18 months; 21 months; 24 months; 30 months; 33 months and 36 months) and the dependent variable was treatment outcome. There were numerous dependent variables, these comprised: heroin use status; crack use status; alcohol use status; social functioning status; mental health status and physical health status. Table one outlines outcome variables and the associated questionnaire measures utilised to obtain the results.

3.1.8. Explanation of the within-subjects factor: Duration of treatment episode

The within-subjects factor was duration of treatment episode. This variable requires explanation - as will be indicated by the use of the later flowcharts - there was a lot of movement across treatment groups over the 36-month study period of treatment and outcomes. The variable of interest in study one differs to time in treatment in RIOTT analyses. Since for these longitudinal analyses we are defining treatment episode length as the total time spent in heroin treatment. The prediction is that treatment episode length will affect outcome (regardless of breaks in treatment and movement to other treatment groups). Figure one illustrates the formation of the outcome

variable ‘duration of treatment episode’, within one possible patient treatment trajectory.

Figure 1. ***An illustration of outcome variable ‘Duration of treatment episode’ using one possible patient trajectory***

Therefore, by the study end point (36 months) on predictor variable ‘duration of treatment episode’ the above patient will have had an SIH treatment episode duration of 27 months. The RIOTT study end point was 36 months following an individual’s entry into the RIOTT trial – as this is how long data were collected for.

Another example may be a patient who begins the study (study baseline) in heroin treatment and drops out (e.g., because he/she goes to prison) at six months and does not return to RIOTT. This patient returns to oral methadone treatment in prison and upon return to the community. This patient’s total heroin treatment duration is six months. One further example is a patient in the above case, but who then who returns to SIH treatment (and RIOTT) upon release from prison, and continues in SIH for a period of 24 months. Therefore, their total time in SIH treatment is 30 months. Baseline involves outcome data for those who have not yet received heroin treatment. In the analyses, only patients for whom there is complete data on the outcome in question, are included. There was a significant amount of missing outcome data. A final example of a patient in the dataset is somebody who never receives heroin treatment during RIOTT. This patient may start on OM or SIM treatment and perhaps he/she remains in OM or SIM treatment for the duration of the time that they are in RIOTT. These patients’ data will not be analysed.

Patients completed research interviews at various time points during the RIOTT trial; i.e., three months; six months; 12 months; 18 months; 24 months and 36 months. In reality there was very little data collected at time points 12 and 18 months and therefore numbers will be very low at these time points. If a patient did not complete a research interview at the time point in question their data will not be included in analyses. Participants’ data may appear in more than one treatment episode category, if they have a research interview available for several categories (for

example both six months and 12 months). In this way the treatment episode categories are between-subjects (and should be viewed as separate samples), however they are within-subjects' samples by virtue of the fact that data for one participants may appear in both categories. Comparison baseline data is only that of those included in the treatment episode variable for which it is being compared to.

3.1.9. Sample and participants

Patients comprise N=127 who completed the RIOTT trial. T-test statistics examining outcome over time involve a within-subjects N=135. N=135 comprises baseline data (i.e., before patients entered IOT) and their associated treatment episode (length of IOT treatment episode).

3.1.10. Measures

Flowcharts chronicling patient movement between treatments was created using Microsoft Visio. The table below indicates quantitative outcome measures utilised - by means of questionnaire data collection measures - for the analyses for study one.

Table 1. ***Study one outcome variables and corresponding data collection measure***

Variable	**Measure**
Mean treatment dose	Collected manually and analysed descriptively
Heroin use status	Dichotomous variable obtained through use of the Opiate Treatment Index (OTI)
Crack use status	Dichotomous variable obtained through use of the OTI
Alcohol use status	Dichotomous variable obtained through use of the OTI
Social functioning status	Continuous variable obtained through use of the Drug Use section of the OTI
Quality of life – Physical health	Continuous variable obtained through the SF36 (quality of life) measure's physical health sub-scale
Quality of life – Mental health	Continuous variable obtained through the SF36 (quality of life) measure's mental health sub-scale

3.1.11. Statistics

Within-subjects' statistics included descriptive statistics describing mean scores and status on outcome variables (such as heroin treatment dose; alcohol use status; health status and social functioning status) using Stata. T-tests were conducted on outcome variables with duration of heroin treatment episode as the independent factor. Analyses were conducted using Stata Standard Edition version 13. Data and spreadsheets were managed using Excel, SPSS and Stata.

In congruence with Rehm et al. (2001) no adjustments are made for multiple testing of effects, since the aim here was to illustrate effects of SIH over time, rather than to formally and strictly test them.

3.2. Study two

3.2.1. Aim

To describe patients' experiences of injectable opiate treatment.

3.2.2. Objectives

6. To formulate and describe patient typology (including treatment allocation and discharge status) for each patient interviewed;

7. To describe patients' drug use and treatment histories;

8. To determine patients' goals for, motivations, and expectations of IOT

9. To explore patients' experience with IOT

10. To explore patients' satisfaction with IOT;

11. To explore patients' views on impact of IOT;

12. To explore patients' views of, and goals for, their recovery.

Objectives 7-12 will be achieved through qualitative interviews with IOT patients and analysed using thematic analysis. Objective 6 will be achieved through formulation, development and illustration of patient typologies; a chapter in its own right (chapter 5), and referenced in the qualitative analysis.

3.2.3. Rationale for choice of research method

To date, the UK RIOTT trial examined broad quantitative outcomes, such as use of illicit heroin through opiate treatment (measured through urinalysis) and retention to treatment (Strang et al., 2010). The RIOTT trial also examined secondary outcomes (Metrebian et al., 2015), finding that outcomes improved across all treatment groups at six months following baseline (as detailed in the introduction). In-depth interviews are recommended for the following reasons: generating in-depth personal accounts, to understand the personal context, to understand complex processes and issues - e.g., motivations; decisions; impacts; outcomes - for private subjects, for sensitive issues, for subjects concerning social norms, and for those studying processes occurring over time (Lewis, 2003). These are all pertinent facets of the patient's trajectory through IOT.

As outlined in the introduction, the major area which required further study and research following a series of injectable opiate treatment trials was an in-depth examination of the different components that make up injectable opiate treatment, including the holistic and ancillary support services. It was clear that there was more to efficacy and effectiveness than simply the administration of IOT, however an analysis of what constituted effectiveness had not been conducted. The most useful – and interesting - way to explore the treatment experience in detail was through in-depth interviews with patients, on the various dimensions of this unique treatment. Since this treatment is so unique, qualitative research was most appropriate methodology as it allows focus on nuanced aspects of a process or experience, for example, patients' goals, and treatment procedure. This level of detail will provide useful information not only for future IOT policy, but for OST policy and practice more generally.

From the study outset and conceptualised through study design, the aim was to describe the different types of changes which had taken place over the course of patients' journey through IOT, the different outcomes that resulted, to illustrate and describe how they had arisen, to explain how and why there were differences between sample members and to understand motivations and decisions. These are all specific aims of thematic analysis, and it was therefore the appropriate method for this analysis. Understanding motivations and decisions, and exploring impacts and outcomes require the detailed personal focus that in-depth interviewing allows. Since there was a potentially large pool of patients (N=127 in the RIOTT trial; final qualitative

n=41 - a relatively large number for a qualitative research project), it was appropriate to interview a larger number of patients to illustrate as broader range of experiences as possible.

The quantitative research with RIOTT patients revealed useful yet limited information about the effectiveness of IOT and the patients' experience and journey through IOT. Neglected in the data on efficacy was why it was effective, and what exactly constituted effectiveness for these patients. Langer and Abelson (1979 in Spinelli, 1989) find that context affects interpretation and judgement. As discussed in the introduction, the context of the IOT trial was inherently related to patient experience, perception, and progress through IOT, given the unique nature of this treatment programme. For example, the need for daily attendance, and supervised dosing. It is proposed that this context was implicated in the effectiveness of IOT, yet this had not been formally explored with patients. A qualitative study allowed full exploration of the intricacies of the delivery and experience of this treatment. In the case of quantitative research, the influence of context is purposely minimised and the researcher adopts a stance of objectivity (Mcvilly et al., 2008).

Qualitative researchers suggest that they can get closer to the participant's perspective through detailed interviewing and observation (Denzin and Lincoln 2000). They argue that quantitative researchers are seldom able to capture participants' perspectives because they have to rely on remote, inferential empirical records and materials (Denzin and Lincoln, 2000). The thesis benefits from both approaches and the need for a qualitative investigation was derived from what lacked from the quantitative analysis, and therefore gaps in the knowledge base useful for further development of policy in this area. In relation to IOT research and addiction treatment research *per se*, the individual lived experience of a daily regimen is likely to be highly relevant to its efficacy and clinical effectiveness. In terms of analysis, overall themes from this work are useful for policy and practice development.

Quantitative research may investigate specific processes within a disorder or disease, and categorise common processes and behaviours; conversely, the phenomenologist would be sensitive to behaviour that falls outside of the typical model and attempt to illustrate it specifically (MacGhee, 2001). The qualitative dimension of the current thesis illustrates both the common and less common narratives. Finally, thematic analysis can offer a more accessible form of analysis, particularly for those early on in a qualitative research career (Braun and Clarke, 2006). The PhD candidate had conducted a little previous research using thematic analysis – yet is still an early stage

researcher - and one of the PhD supervisors (TW) was very knowledgeable with the approach. In addition to the fact that the approach encompasses a degree of flexibility (Braun and Clarke, 2006) in the technical conduct of the process of coding and analysis, the approach was chosen for pragmatic reasons, on the basis of knowledge and expertise of the student and, in particular, PhD supervisor. The researcher wished to capture a great range of experiences from as many participants across the three IOT sites as she could, since there were a number of possible trajectories of movement through IOT (as illustrated in the quantitative data in chapter four), therefore practicality was key in the time scales for analysing and writing the thesis, yet still managing to recruit, interview, code and analyse data from a large number of participants.

3.2.4. Methods

3.2.5. Research design

The research design is qualitative and its analytic method is thematic analysis. The epistemological approach taken to this thematic analysis is a realist approach.

3.2.6. Study setting

The three clinics that hosted the qualitative interviews were situated in one city and two towns in England. Clinics were treatment centres traditionally providing oral substitution treatment, as well as psychosocial support programmes. For the purpose of the qualitative interviews, interviewing either took place in one of these clinics or at another treatment centre convenient to the patient, including a GP surgery and an alcohol treatment service. In such cases, interviews were arranged through the patients' current keyworker or care manager.

3.2.7. Clinic locations

Interviews were conducted in the three locations of the clinics included in the RIOTT trial; Darlington; Brighton and London.

3.2.7.1. Darlington clinic

Darlington is a market town in County Durham in the North East of England and is also part of the Tees Valley region. Darlington has a population of 105,600 (ONS, 2012). The clinic was out of the centre of town, but near to it, in a quiet side street. Patients had a time limited slot of ten minutes each day where they could attend for their injections. If they arrived outside of these times they were not permitted to receive their injection. The clinic was part of a wider drug treatment service and patients entered in the reception round the back of the building and spoke to a receptionist who had the list of IOT patients and what time they were due to attend for their injections. The clinic reported that, in the main, patients would attend on time.

3.2.7.2. Brighton clinic

Brighton and Hove is a city in East Sussex on the South East England coast. The population of Brighton and Hove is 273,400 (ONS, 2012). The clinic is very near to the centre of Brighton but away from it, on a main road not close to shops, but close to residential houses. Patients were not required to attend at a particular time of day for their injections, just during a specified morning period for morning injections and a specified afternoon period for afternoon injections. If attending for one injection patients could attend at any time during the clinic's opening hours. The injecting clinic was part of a wider methadone prescribing clinic, in a specially created injecting facility on the basement floor. Patients were required to enter through the back door to the main clinic and were breathalysed by nurses upon attendance. If there was a queue, patients could either queue outside (or two could wait in the clinic). Generally, the clinic did not get unmanageably busy.

3.2.7.3. South East London clinics

London has a population of 8.5 million (ONS, 2014). London clinics were based in Camberwell and Blackfriars. Additional treatment centres for qualitative interviewing included an alcohol service and a GP surgery, in Central, and South, London. The injecting clinic in London was initially in an NHS building on a busy high street in a built-up inner city district location, and then moved to a hospital annex in a mental health hospital in the same neighbourhood. The location is a busy south London district; however the hospital complex is set back from the main street. In the initial location, similarly to Brighton, patients could attend at any time of day during the clinic opening hours (morning and afternoon – and as with the Brighton the clinic it was closed for lunch). In both clinics patients would ring the doorbell and CCTV would reveal to the receptionist who was at the door – patients would also state their name – though generally all patients were familiar to all staff. In the first clinic, the building was a very inconspicuous one, and it would not be known by people walking past that it was an NHS service, nor a drug treatment service. In the second location it was part of the hospital complex but that it was a drug treatment service was not apparent. A third location came into operation during the RIOTT trial and this had a very small injecting facility with only 4-5 clients who received their injectable dose there. It was located in a central London drug treatment clinic on a busy main road. This clinic had a sign outside to state that it was a drug treatment clinic. Patients were not required to attend at a particular time, however, through choice, those in the central London clinic would attend for their injections every day first thing in the morning.

Qualitative interviewing took place at all three London clinics, although the first had become a smoking cessation clinic by the time of qualitative interviewing.

3.2.8. Sampling method for qualitative research study

A purposeful sample of patients from the following identified subsamples of the RIOTT cohort were included:

1. In receipt of IOT: Participants were those who had at some stage received injectable opiate treatment; those only receiving oral methadone treatment were not recruited;

2. Treatment trajectory: The primary sampling variable was Treatment trajectory, comprising those assigned to IOT during RIOTT; those who remained in IOT thereafter; and those initially assigned to OOM and then moved to IOT sometime post the six-month RCT;

3. Site: To recruit from London, Darlington, and Brighton;

4. Gender: Male, female.

At study design the aim was to recruit a more equal balance of patients across treatment sites (ideally with approximately 13 patients recruited from each site). In practice the method of recruitment became opportunistic and all available, and willing patients across sites were approached to take part in the qualitative interview. Ideally the aim would have been to recruit an even number of males and females, however this again was not possible in practice, particularly as the current population (the RIOTT cohort) was composed of more males than females. The final aims were to, firstly, stratify equally according to whether patients were assigned to OOM and then moved on to IOT, or remained in IOT throughout their treatment episode. Secondly, the intention was to stratify qualitative patients according to responder status (with an equal balance of those who responded to RIOTT trial treatment in the first three months – by reduced use of illicit heroin – as outlined in the introduction (RIOTT trial section), and those who were non-responders – by virtue of the fact that they persisted use of illicit heroin during this time. In practice, because the available number of patients in the sample was limited, and an opportunistic approach was taken, this was not possible. However, as is demonstrated in the sample and participants section, these groups balanced naturally.

3.2.9. Sample and participants for qualitative study

Qualitative research commonly employs purposive sampling (samples within samples; Patton, 2001) to ensure representation of the range and diversity of a study population. The aim was to recruit a balance of those who had begun on IOT and remained in IOT and those who had moved to IOT at some point during data collection. This balance emerged naturally during recruitment. In the design stages of the study another aim was to recruit a balance of patients across the three localities,

but time, budget and other practicalities meant that this was not possible in practice – as discussed in more detail.

The final sample comprised 41 (32% of the N=127 Intention to Treat RIOTT cohort) patients from the RIOTT trial. In the overall RIOTT cohort, patients comprised 51 patients in London, 31 in Brighton and 45 in Brighton. The qualitative study with RIOTT patients involved 23 patients in London (45% of the original London cohort) - across six different treatment centres, including those no longer in treatment - 11 in Brighton (35% of the original Brighton cohort) and seven in Darlington (15% of the original Darlington cohort).

29 (71%) patients were male and 12 (29%) were female. At the time of interviewing (July 2013 – January 2014) 19 (46%) were in oral methadone treatment; 13 (32%) were in injectable heroin treatment; 4 (10%) were in Slow Release Oral Morphine (SROM or MXL) treatment; 4 (10%) were no longer in any treatment (abstinence); and 1 (2%) was in buprenorphine (subutex) treatment. In terms of treatment group breakdown 17 (41%) started with injectable methadone; 15 (37%) injectable heroin; and 9 (22%) oral methadone – with all of these patients at some stage switching to one of the injectable treatment groups. All patients were those who had at some stage received injectable treatment.

During the RIOTT trial patients were classified as either responders or non-responders during months 3-6 of treatment – this was on the basis of number of urine drug screenings that were positive for illicit heroin. Responders were those who 'responded' to the trial medication by means of significant reduction in illicit heroin (50% or more negative drug screenings in months 3-6). 19 (46%) of the qualitative cohort were responders; 19 (46%) non-responders and 3 (7%) had unknown status on this domain (either due to a clinical error or a planned absence at the time of the drug screenings). As illustrated in later sections of the thesis, there was a lot of movement from one treatment to another amongst patients, at various points during the three-year data collection period. The decision about movement was made on the basis of patient response to the treatment drug they were receiving, and through a process of clinical decision-making. For this sample, 20 (49%) patients moved from their assigned treatment at least once and 21 (51%) remained in their original treatment throughout the three-year research trial.

3.2.10. Position of the interviewer

> ‘The qualitative researcher’s perspective is perhaps a paradoxical one: it is to be acutely tuned-in to the experiences and meaning systems of others - to indwell - and at the same time to be aware of how one’s own biases and preconceptions may be influencing what one is trying to understand.’ (Maykut and Morehouse, 1994, p. 123).

The interviewer was an independent researcher completing a PhD in the department for addictions and had no involvement in the RIOTT trial. She was completely separate to the clinical team delivering IOT. This was advantageous and the interviewer felt that she was able to build a good rapport with participants, and one reason for this may have been her identity as an outsider. The interviewer was very aware of her context (‘researcher’s context’ – such as class, ethnicity, gender; Angrosino, 2005), that is, certain factors about her own identity that could have had an impact on how patients responded to her during recruitment and qualitative interviewing. There was clearly a high level of ‘social distance’ (as coined by Georg Simmel in the 1890s; Ethington, 1997) between qualitative participants and the researcher. The researcher is a young female from London. All of the participants were older than the researcher and there was a much greater majority of male patients interviewed for the qualitative study. The researcher is from a different socio-economic status to the sample of patients interviewed. She was dressed in smart-casual attire, which may have reinforced the social distance.

The researcher is also quite clearly different to the clinical team who administered care to patients on IOT, by virtue of the fact that she is not a medical professional and was a student. The information sheet demonstrated to participants that the project was part of a PhD research project, illustrating the researcher’s status as a PhD student. The researcher has often been told that she looks younger than she is, and this was something that she held in mind – that participants may interpret her as younger than she actually is. The researcher interpreted quite a playful communication style from patients (particularly male) in her interactions with them, which is possibly different to the way that they may interact with a doctor or psychiatrist working on the trial or handling their clinical care. That the researcher was from London, and had travelled to Brighton and Darlington was also of relevance to these two clinics, and this was information that the participant was aware, may have further reinforced the researcher’s outsider status to participants. This power dynamic

also applies to clinic staff. When organising interviews, it was clear that the staff were particularly helpful and respectful, perhaps also interpreting the power dynamic of a researcher who is supervised and directed by senior members of the clinical team. It is argued, however, that the conduct of ethnographic or qualitative research goes some way to reduce 'social distance' (as compared to a questionnaire methodology) or status gap between researcher and participants (Silverman, 2013).

However much of a rapport the researcher may have created with patients, it was clear that she had outsider status, whereby she was an outsider to the patients' culture. As has been evidenced, there were pros and cons to this. As outlined by Corbin and Dwyer (2009), membership status (outsider versus insider) in relation to the participants does not necessarily negatively affect the interviews, however, it raises an important point that must be considered in research with participants who identify with a group, based on shared experience, gender, sexuality, ethnicity, race, et cetera. This issue confronts both researchers who are members of the group they are studying, and those who are not, for there are costs and benefits to each of these statuses (Corbin and Dwyer, 2009).

What is clear, however, is the fact that there will invariably be a power dynamic at play in the conduct of qualitative interviews in this study. A power dynamic is created through the subjective position made apparent for both researchers and participants by the research process (Riley, Schouten, and Cahill, 2003). This applies generally speaking, however in the current case, participants had gained from IOT, and this may have reinforced the power dynamic, whereby the researcher could have been seen as somebody influential in the process of IOT either continuing or coming back into clinical practice. The status gap and power dynamic are important to consider when interpreting the following qualitative analyses. The influence of the relationship, the researcher, and the co-construction of the narrative (Davidsen, 2013) are important areas to explicitly address, particularly from the critical position (of qualitative research), that knowledge is constructed inter-subjectively (Davidsen, 2013).

3.2.11. Qualitative IOT patient characteristics

Table 2. ***Qualitative Injectable Opiate Treatment patients' characteristics***

Variable	**N**	**% of qualitative sample**
Gender		
Male	29	71
Female	12	29
Site / clinic		
London	23	56
Brighton	11	27
Darlington	7	17
Current treatment status		
OM	19	46
SIH	19	46
MXL	4	10
No longer in treatment	4	10
Buprenorphine	1	2
Original treatment assignment		
SIM	17	41
SIH	15	37
OOM	9	22
Responder status		
Responder	19	46
Non-responder	19	46
Unknown	3	7
Moved to IOT/Remained in IOT		
Moved	29	49
Remained	21	51

3.2.12. Interviews

Interviews were based on topic lists drafted following a literature review and consultation with key researchers and clinicians involved in the RIOTT trial, but were also responsive to issues emerging from patients' accounts. Interviews were further informed by the findings of initial thematic interviews with qualitative patients.

All interviews were tape-recorded, transcribed and downloaded for coding and analysis using NVivo. At the stage of code refinement Excel was used, in order to easily group codes in to their relevant themes and sub-themes. Transcripts were typed into Word and a digital dictaphone was used for recording interviews.

3.2.13. Interview schedule

The interview schedule comprised the following sections.

Table 3. ***Topic guide for qualitative interviewing***

Item	Topic
1	Background (including questions on patients' heroin use history, and treatment history);
2	Referral - Motivations and goals – what promoted patients to enter IOT; expectations; goals; hopes;
3	Experience of treatment journey and perceptions of personal progress through treatment;
4	Experience of medication administered (including medication, dose, route of administration, and views about any changes, and additional methadone);
5	Perspectives on timeline – how long patients spent in injectable treatment and views about this;
6	The clinic (process, the need for everyday attendance, support provided, clinical decision-making, social connections, and patient behaviour);
7	Social support – friends/relatives, and the perspective of friends/relatives;
8	Impact – of treatment (significant changes to personal situation, use of drugs, treatment decisions, physical/medical complications);
9	Goals – for the future
1(	Recovery – specific views on recovery in the context of IOT.

Section one of the topic guide began with a question about patients' heroin use histories as a way to allow the participant to begin talking and put them at ease (Rubin

and Rubin, 1995). General open questions such as ‘Can you start by talking about your heroin use history?’ helped start the interviews and gain trust. This then ended up forming a useful section of the analysis in its own right (chapter 6 – Heroin use history).

Section two addressed motivations and goals at treatment outset, and whether these goals developed over time. This was of interest and deemed relevant to patient trajectory and progress through recovery and IOT. What motivated patients to engage with IOT was of interest to the field of recovery. Whether patients’ initial perceptions affected ongoing engagement with the treatment was explored within this section.

Specifically a thesis objective, patients’ experiences of this unique treatment were explored. Additionally, patients’ views about their own progress through treatment was explored, which also encompassed patient satisfaction with treatment. Similarly, sections 4-6 examined treatment process, as this was hypothesised to be connected to the success and efficacy of IOT overall. As well as the impact of treatment, outside support was examined.

The final sections were on goals for the future - it was hoped that through this order, patients could hopefully leave feeling calm and in a positive frame of mind (Rubin and Rubin, 1995) – and recovery. To end, patients were asked if they had anything to add which had not been mentioned previously (Rubin and Rubin, 1995), bringing the interviews to a natural close.

3.2.14. Procedure

3.2.15. Recruitment – design

When designing the study, the aim was to recruit equal numbers of patients across sites, however the researcher was limited on both time and funding for travel. Recruitment in Darlington involved the researcher spending a week in this locality and the DNA rate for patients attending for their booked research interview was relatively high (50%). Recruitment in Brighton involved a long commute from London to Brighton, and once again the DNA rate could sometimes be high (approximately 40%). The majority of these missed appointments were booked for another time, however, this was not possible in Darlington, due to travel constraints to this locality.

London recruitment was less problematic, as the researcher was based in South London, and the majority of the interviews and recruitment took place at the three main clinics in South East London (two at Denmark Hill - where the researcher was based - and one at Blackfriars Road). Recruitment also took place at four other sites across central and South East London, for ease for patients. Other sites included a medical centre in central London, a treatment clinic in South London, and an alcohol treatment centre (where one client out of opiate substitution treatment was attending for key-work sessions through an alcohol treatment requirement; ATR) in South London. Throughout, it was made clear that participation would be kept anonymous, was confidential, and voluntary.

3.2.16. Recruitment procedure

Patients were those who participated in the UK RIOTT trial during 2005-2008. The intention was to recruit a sample of those from the RIOTT trial for the purposes of retrospective qualitative interviews on their perceptions and experiences, both prior to, during, and post their time on the IOT trial. Ethical approval was sought from May – July 2013 and recruitment for the qualitative study began at the end of July 2013 and ended in January 2014. The PhD candidate was the only researcher recruiting and interviewing participants for the study.

By way of ethical legitimacy RIOTT lead clinicians contacted patients initially, and sought consent for the researcher to contact patients. Only once this consent was given did the researcher contact patients. Patients who were still in treatment were recruited from the respective clinics. In Brighton, the clinic (and RIOTT) lead consultant either telephoned or wrote to patients both in and out of treatment explaining the study. In this case patients could either send a second consent form back in the post stipulating that the researcher could make contact directly, or they could get in touch with the clinic to give this consent. Patients who were still in IOT were approached by their keyworker and invited to take part in the interview. The same process applied, whereby initial consent was gained for the researcher to then approach the patient directly.

In London the recruitment procedure was the same, except patients had dispersed across a number of treatment centres in South East and central London by the time of recruitment, and recruitment took place mainly via keyworkers at each locality.

Ethical approval permitted the displaying of a poster in a number of treatment centres in South East London where former RIOTT patients were likely to have still been receiving treatment. Patients could then speak to their keyworker about participation and keyworkers made contact with the researcher to give consent for her to contact patients directly. Ethical approval also granted permission for the consultant in London to send out a flyer to patients who were no longer in treatment; they could then contact the researcher directly to consent to participation.

In Darlington all patients had been discharged, following the closure of the IOT clinic at that locality by the time of recruitment and interviewing. These patients were transferred back on to oral methadone through a non-statutory treatment provider with charitable status (non-NHS). The researcher made contact with this provider and the manager at this clinic contacted all known RIOTT patients and recruited them to the study. The manager of this service then booked consenting patients in over the period of the week that the researcher spent at this locality. It was not possible to contact the patients at this locality who had dropped out of oral methadone treatment by the time of interview as there was no way for consent to be obtained. Therefore, in Darlington, only those still in OST were interviewed.

All interviews were conducted in a private room of the respective treatment clinic and patients were reimbursed with a £20 store voucher for their time. Patients were informed that they would be reimbursed through a store voucher when they were recruited to the study and it is important to note that this may have influenced their decision to take part in the study. However, for ethical reasons it was important that patients were reimbursed for what could sometimes be a long research interview. Only two approached patients (across all three localities; one in London and one in Brighton) declined participation. When approached both participants said they would take part another time, but did not follow-up on this. One patient in Darlington who very much wished to participate got in touch too late – the researcher had left the locality and recruitment was completed.

3.3. Case note reviews

To support and validate findings from study two, a case-note review of the research files of patients included in study two was conducted. These were conducted prior to interviewing so that they could be referred to during interviewing, for example, in reference to the patients' treatment trajectory (highlighting which treatment drug patients were on at which point and to aid memory on topic areas, such as when illicit drug use ceased or reduced). Patients checked a particular box on the consent form to give permission for the case note review to be conducted prior to their interview. All patients in study two consented to this, and case note reviews for each patient appear in the appendix. Case note reviews include patient pseudonym and ID, for easy referral back to qualitative quotes in the qualitative chapters. The case note reviews address objective 12 and provide context for the findings of study two.

The case note reviews appear in the appendix 5.

3.4. Interviews

Interviews lasted between 25 and 90 minutes, with most interviews taking 45 minutes – one hour. Interviews were conducted in a private room in clinics where patients either received care or had previously received care. These were usually prescribing clinics, in some cases drug and alcohol treatment services, and in one case a GP medical centre.

3.5. Confidentiality and anonymity

All interviews were conducted by the PhD candidate. Aside from when she explained the study to potential participants, the researcher had never previously met the participants. This was felt to be an advantage and the researcher emphasised her lack of connection to the RIOTT trial and current treatment service. The researcher emphasised that she was not part of the research or clinical team and that all responses would be kept in strictest confidence, and that only she would have access to recordings and transcripts – along with a professional transcriber who would transcribe anonymised interviews. It was emphasised that these recordings would not

be linked to patient names and that all names would be replaced with a pseudonym in any academic or professional reports derived from the interviews. Honest and open responding was important for the research, and this point was emphasised to patients. It was felt by the researcher that the fact that recollections were retrospective allowed the participants to feel more comfortable about speaking openly and honestly about their experiences of the treatment programme.

The researcher has worked in the addictions field for ten years, including in both a research and in an assistant clinical psychologist capacity, and has received academic training in motivational interviewing. The researcher met with the academic supervisors at regular intervals during data collection and analysis to review and discuss the design of the interview schedule and the data collected. Supervisors were RIOTT trial Principle Investigator (JS) and Trial Coordinator (NM), both academic supervisors for the PhD thesis, along with the third academic supervisor (TW) who was particularly experienced in both the fields of addiction and qualitative research. The supervisors and site clinicians also inputted into design of the interview schedule, to include questions derived from clinical observation as well as the evidence base. NM and TW triangulated (multiple observer triangulation) the analysis phase by reading and coding participant transcripts to ensure that interpretations were in concordance with the PhD candidate's.

3.6. Safety

The researcher informed the site clinician, clinic receptionist, and nurses on duty who she would be interviewing, when and where. Interview rooms had panic buttons in case of emergency, though there was never a problem during interviewing for this study. One patient in Darlington seemed quite intoxicated during the interview, and his keyworker was aware of this. He was able to engage with the interview and answer the questions however. Generally speaking, if there were any concerns the researcher would have informed key-workers and site clinicians, though this did not become necessary.

3.7. Managing disclosure

Patients were informed that everything they spoke about during interviews would be held in confidence, that only the researcher had access to recordings, and all transcripts and quotes would be anonymised and labelled with pseudonyms. The researcher made clear that the only time confidentiality would be broken would be if the patient mentioned that they wished to harm themselves or another person, or if they or another person were at risk in some way.

3.8. Data security

Anonymised transcripts and recordings were stored on a password protected King's College London computer and will be destroyed in line with ethics committee requirements at the appropriate time following PhD submission and publication of research papers. This data is stored in an office requiring swipe card access.

3.9. Analytic method

The research design is qualitative, its methodology phenomenological, and its analytic method is thematic analysis.

3.9.1. Theoretical account of data analysis approach

As outlined in the 'Position of the interviewer' (section 3.2.10. in the Methods chapter), qualitative methods take a critical stance toward knowledge, and recognise the influence of history and culture and appreciate how such knowledge is constructed inter-subjectively (Davidsen, 2013).

Phenomenology is the study of structures of consciousness, as experienced from the first-person point of view (Woodruff-Smith, 2013). The phenomenological methodology aims to describe, understand and interpret the meanings of experiences of human life (Bloor and Wood, 2006). It focuses on research questions such as what

it is like to experience a particular situation (Bloor and Wood, 2006). As a concept, 'phenomenology' attempts to clarify a way of viewing human beings and their lives, which identifies the essential uniqueness of the human experience (McPhail, 1995). In order to develop a conceptual framework for the concept of phenomenology, Husserl drew on the Kantian distinction between 'noumenon' and phenomenon (McPhail, 1995). Husserl argued that there are two kinds of reality: (1) 'noumenon' – that is, being in reality itself and (2) phenomenon – the appearance of reality in consciousness (McPhail, 1995). According to the phenomenologists, explanation of the mechanisms of 'noumena' seemed the appropriate subject for the natural sciences, and the description of phenomena should be the focus of study in the human sciences (McPhail, 1995). Using phenomenological methods, focus is on rich description of some aspects of contextualised experience, described through language (Davidsen, 2013). Qualitative research recognises that descriptions of phenomena are unavoidably conditioned by interpersonal, social and cultural eventualities, and that theory and method must therefore be combined (Davidsen, 2013).

Phenomenology intends to turn towards the topic itself, whilst releasing itself from pre-existing prejudices (Speilberg, 1978), but in a reflexive way (Toombs, 1992). In the present study the researcher states her experience, perspective and standpoint (in the 'Researcher reflections' section on page 344) and held them in mind throughout the process of data collection and analysis. Phenomenology also encompasses a scientific approach to subjectivity (Natanson, 1974). Braun and Clarke (2006) argue that a realist view of qualitative research where researchers can simply "give voice" (Fine, 2002) to their participants is naive. Braun and Clarke (2006) highlight that as Fine (2002: 218) describes, even a "giving voice" approach "involves carving out unacknowledged pieces of narrative evidence that are selected, edited, and deployed to border the arguments". During qualitative interviewing and analysis for the current study the researcher remained mindful of this perhaps unconscious tendency to select and edit narratives, and aimed to present accounts as objectively as one is able to in the process of qualitative analysis. The aim was to represent both the convergent and divergent views, perspectives and experiences, whilst illustrating patterns across the entire data set (University of Auckland, 2016). The aim of phenomenological qualitative research is to examine experiences and meanings and to illustrate as closely as is possible, the way in which phenomena is experienced within its context (Georgi and Georgi, 2003).

As with the Oviedo-Joekes (2014) North American qualitative study of experiences of IOT (which also employs use of thematic analysis as its analytic method), a phenomenological theoretical framework was employed. This study design was most appropriate for providing a rich description of the meaning and significance of both participants' pre-IOT experiences and judgements, and the treatments received (Oviedo-Joekes, 2014), during the clinical trial, the pragmatic trial, and experiences of IOT, and other treatment following RIOTT.

3.9.2. Thematic analysis

Thematic analysis may be underpinned by phenomenology (University of Auckland, 2016). Heidegger (1967) made the important point that interpretation cannot be avoided and that all descriptions necessarily involve interpretation. Thematic analysis focusses on the subjective human experience and aims to illustrate participants' feelings, perceptions and experiences.

Thematic analysis is a process of identifying themes that arise as being important to the description of the phenomenon (Daly, Kellehear, and Gliksman, 1997). The process involves the identification of themes through "careful reading and re-reading of the data" (Rice and Ezzy, 1999, p. 258). It is a form of pattern recognition within the data, where emerging themes develop into categories for analysis (Fereday and Muir-Cochrane, 2006). It minimally consolidates and describes the data set in rich detail. However, it also often goes further than this, and interprets various aspects of the research subject (Boyatzis 1998; Braun and Clarke, 2006). Of importance to phenomenology, Braun and Clarke (2006) emphasise the active role of the researcher in identifying and analysing themes in qualitative research that uses a thematic methodology.

One of the benefits of thematic analysis is its flexibility. Qualitative analytic methods encompass both those that are tied to, or stem from, a particular theoretical or epistemological position, as well as those that are essentially independent of theory and epistemology, and can be applied across a range of theoretical and epistemological approaches (Braun and Clarke, 2006). The latter applies to thematic analysis. Through its theoretical freedom, thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data (Braun and Clarke, 2006). In contrast to thematic analysis,

Interpretative Phenomenological Analysis (Smith, 1996) is a phenomenologically based qualitative method, but one that necessitates a focus on the unique characteristics of individual participants (University of Auckland, 2016). This might not have been pertinent to this slightly less homogenous sample of participants – as chapter four illustrates – whose location, trajectory and current situation was rather varied, despite the homogeneity of all having, at some point during the RIOTT trial's operation, undertaken IOT.

The Braun and Clarke (2006) guidelines were used for analysis of the data and will be discussed in detail.

3.10. Step-by-step process of conducting the thematic analysis

The step-by-step process of conducting the thematic analysis is in appendix 2.

3.11. Study strengths and limitations

The study benefits from a retrospective methodology, therefore, the entire treatment trajectory is explored and outlined. The researcher was completely independent to the IOT clinical and research team, and it is proposed that this was beneficial for gaining trust and eliciting open and honest responding. The researcher had never previously met patients and the researcher remained consistent across all 41 interviews. Research interviews were conducted a number of years following data collection for the IOT trial, and therefore participants were not at danger from suffering from research fatigue. In the main, participants seemed keen to share their experiences with the researcher, and were given at least a few days to decide if they wished to take part in the research. This allowed space and time for participants to reflect on their experiences of IOT. It is proposed that this methodology elicited rich and detailed interview data.

Study limitations include the fact that numbers of patients from the Darlington clinic were low, with a fewer number of patients remaining in treatment at this locality and a higher DNA rate for those attending research interviews. This is likely because these patients were less motivated to take part, since they had experienced IOT clinic

closure, and those who could be contacted and invited to take part in a research interview were back on oral methadone treatment. It is likely that if a greater number of patients were recruited from this locality, responses across the dataset might be slightly different. An additional limitation was that study two was extremely time-consuming, at both the stage of recruitment (in part due to the travel involved), and also analysis and write-up, due to the large number of patients included in the study and the length of the research interview – in some cases up to an hour. A further limitation is that interviews were conducted a number of years following patient experience of IOT, and therefore patients' memories for events may not always be completely accurate.

Finally, the original intention was to extract data from medical records for the case-note reviews (which were useful during interviews, in cases where patients could not remember specific elements of their treatment trajectory – such as when they moved from one drug treatment to another; and which appear in the appendix), however due to time and budgetary constraints, this was not possible. Therefore, data included in the case note reviews are taken from the research files, and are less comprehensive (for example omit data on mental and physical health difficulties that may have occurred during treatment).

3.12. Research ethical approval

National NHS research ethical approval was sought and granted for the overall study. The research ethics committee was NRES Committee London – Dulwich. Local R&D approval was sought and granted in Brighton (Sussex NHS Partnership NHS Foundation Trust) and London (King's College London and South London and Maudsley NHS Foundation Trust). Ethical approval was sought on the basis of clinics and clinicians contacting former RIOTT trial patients to inquire into consent for the researcher to contact them to invite them to take part in the qualitative interview study. At this initial stage the researcher did not make any direct contact with patients herself; this only occurred once patients had been briefed by clinical staff, and given consent for the researcher to contact them.

Chapter 4 – Findings: A description of Injectable Opiate Treatment process and the effect of treatment duration on outcome

The following chapter aims to describe treatment process and the effect of treatment duration on outcome for participants who took part in the RIOTT trial and subsequent long-term IOT. Specific objectives (1-5) are listed in the methodology chapter.

4.1. Introduction to the chapter

Following the six-month randomised phase of the RIOTT trial, all trial patients in the three supervised injecting clinics (in south London, Darlington and Brighton) continued to receive Supervised Injectable Heroin (SIH) or Supervised Injectable Methadone (SIM) treatment if clinically appropriate. The basis of this decision was the extent to which each patient had demonstrated a positive clinical response and had obtained significant benefit from SIH or SIM. Those patients who had not significantly benefited from treatment with SIH or SIM were transferred back to conventional therapies (OST such as oral methadone or buprenorphine treatment). Patients who had completed a period of optimised oral methadone treatment (OOM) during the trial and were not responding to this treatment were offered SIH or SIM, as recommended in the NTA 2003 Guidance Report (NTA, 2003). Where possible, patients were followed-up at 24 months and again at 36 months. Caution should be used when interpreting data due to small sample sizes. Missing data was prominent with fewer resources available for collection of research data at 24 months and 36 months across the three clinics.

The following section describes data which were collected during the RIOTT trial and analysed by the PhD student. The aim of the chapter is to illustrate the trajectory of movement of patients who took part in the RIOTT trial, and in particular illustrate the complexity of movement undertaken by patients. This provides the context to the later qualitative interviews of experiences of this cohort of patients.

4.2. Results

4.2.1. Samples

The first sample includes N=127 who took part in the RIOTT trial. The second sample includes those who consented to be followed up for longitudinal analysis and who completed quantitative research interviews during the longitudinal data collection points. The later t-test analyses data comprises those who consented to follow-up and for whom there was research interview data available; additionally, these analyses are only of those who received SIH treatment during the RIOTT trial.

4.2.2. Flowcharts of patient movement

Patients were assigned to one of three treatment groups and subsequent patient movement is chronicled using flowcharts, in order to illustrate patients' complex treatment trajectory. The following flowcharts illustrate the frequency of movement from one treatment group to another over the three years that patients were observed during the RIOTT trial. Unknown data includes incidences of missing data (data was missing from the research files). Why data was missing was not always known as the PhD student was conducting secondary analyses on data collected during RIOTT, rather than data she had collected herself, for all quantitative analyses. The flowcharts illustrate the trajectory of movement for patients assigned to Optimised Oral Methadone (OOM), Supervised Injectable Methadone (SIM) and Supervised Injectable Heroin (SIH). This movement is discussed.

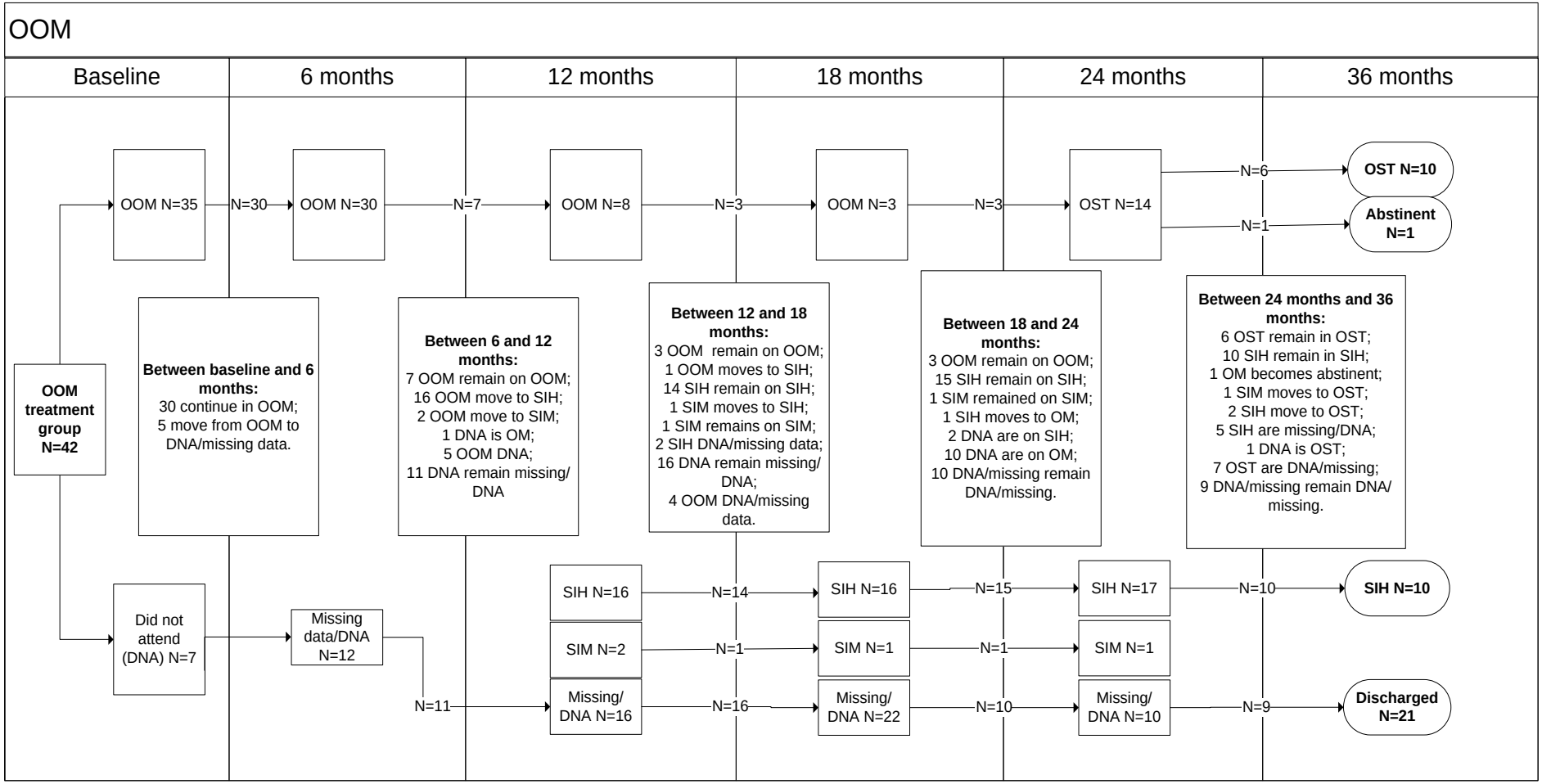

Figure 2. ***Trajectory of movement through the 36-month treatment programme amongst those assigned to the optimised oral methadone (OOM) treatment group***

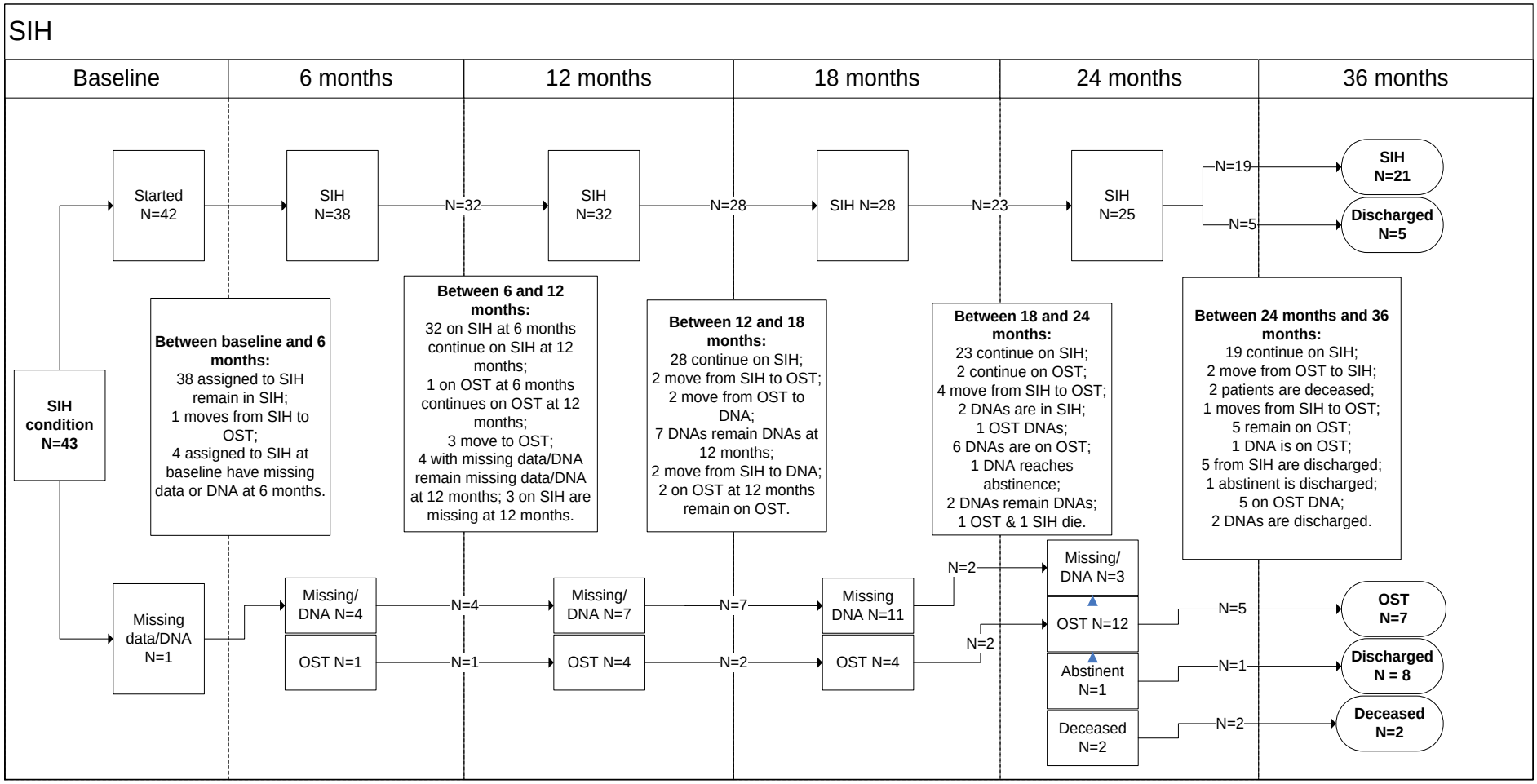

Figure 3. ***Trajectory of movement through the 36-month treatment programme amongst those assigned to the supervised injectable heroin (SIH) treatment group***

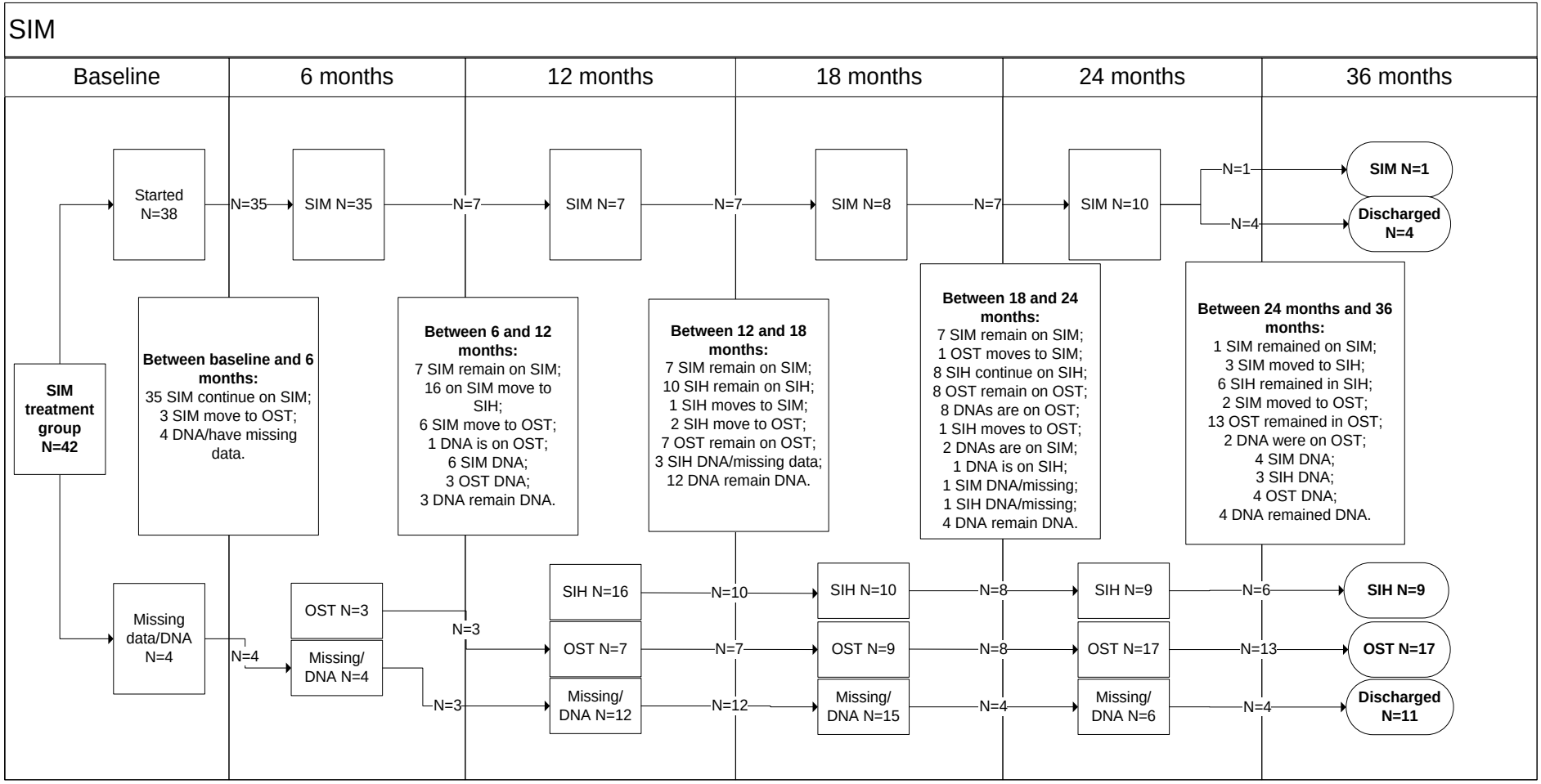

Figure 4. ***Trajectory of movement through the 36-month treatment programme amongst those assigned to the supervised injectable methadone (SIM) treatment group***

4.2.3. Describing the longitudinal IOT trajectory

The first flow chart maps the trajectory of movement of those assigned to the oral methadone treatment group. The table below outlines treatment status for these patients at 24 months and 36 months. Further analyses were not conducted on those who remained in OOM at 24 months and 36 months, as the thesis focusses on those patients who received injectable opiate treatment only. The second section of the chapter describes the various outcomes of all those patients receiving longitudinal injectable opiate treatment.

4.2.4. Outcome measures

Outcome measures include the following.

1. Heroin use status – self-report (use in the last 30 days; yes or no);
2. Crack use status – self-report (use in the last 30 days; yes or no);
3. Alcohol use status – self-report (use in the last 30 days; yes or no);
4. Mean daily dose of SIH – collected by RIOTT researchers and research nurses and abstracted from research files by the PhD candidate;
5. Mean daily dose of Oral Methadone – as above;
6. Crime status – self-report (crime committed in the last 30 days; yes or no);
7. Alcohol use status – self-report (use in the last 30 days; yes or no)
8. Short Form 36 (which is a generic quality of life measure utilised in health populations) – self-report mental health and physical health sub-scores;
9. Social functioning sub-scale of the Opiate Treatment Index measure - self-report.

4.2.5. Optimised Oral Methadone

Overall status at 24 and 36 months for the Optimised Oral Methadone (OOM) treatment group.

Table 4. ***Drug treatment status at 24 and 36 months for those assigned to the OOM treatment group***

	24 months		**36 months**	
Drug treatment status	**N**	**Percent**	**N**	**Percent**
SIH	17	40	10	24
OM	14	33	10	24
Detoxed/drug free			1	2
Prison	1	2		
Did not start	7	17	7	17
Missing	2	5	14	33
Total	42	100	42	100

Forty-two patients were assigned to oral methadone treatment. Seven patients did not start treatment and 35 remained on OOM. Between baseline and six months 30 patients remained on OOM, and a further five did not attend. This meant that there were 12 with missing data by six months. Between six months and 12 months, seven remained on OOM, 16 more from OOM moved to SIH, two from OOM move to SIM, one DNA is on OOM, five OOM DNA, and 11 who were DNA at six months remain so by 12 months. By 12 months eight are on OOM, 16 are on SIH, two are on SIM, and 16 have missing data. Between 12 and 18 months three remain on OOM, one OOM moves to SIH, 14 SIH remain on SIH, one SIM moves to SIH, one SIM remains on SIM, two SIH DNA, 16 DNA remain missing, four OOM are also DNA/missing. By 18 months three remain on OOM, 16 are on SIH, one is on SIM and 22 are missing/DNA.

Between 18 and 24 months, three OOM remain on OOM, 15 SIH remain on SIH, one SIM remains on SIM, one SIH moves to OOM, two DNA are on SIH, and 10 DNA are on OM, 10 DNA /missing remain so. By 24 months 14 are on OST, 17 are on SIH, one is on SIM, and 10 are missing/DNA. Between 24 and 36 months, six on OST remain on OST, 10 SIH remains on SIH, one OST becomes abstinent, one SIM moves to OST, two SIH move to OST, five SIH are missing, one DNA is on OST,

seven OST are missing, and nine DNA/missing remain so. By 36 months ten are on OST, one is abstinent, ten are on SIH, and 21 have been discharged.

At 36 months one of the patients who had remained in OOM for 24 months was illicit drug and maintenance drug free at 36 months. It is noteworthy that this patient was drug free at 36 months and was still drug free at the time that recruitment for the qualitative study took place. He was not eligible for participation in the qualitative study since he did not undertake injectable treatment.

4.2.6. Supervised Injectable Heroin

These data pertain to those patients originally allocated to Supervised Injectable Heroin (SIH; n=43) and who were retained in SIH treatment at 24 and then 36 months. The first table outlines the 24 and 36-month status for those originally allocated to SIH. Where missing data occurs for a particular variable, this means that data was missing for a particular patient at that time point for the variable in question (for example, there may be drug treatment status data for participants at a given time point, but no dosage data). This may be the case when a patient is absent on a day that data was collected. Reasons for instances of missing data were often not recorded. The missing data likely reflects the realities of data collection within a longitudinal multi-site RCT, and also the fact that the data was not collected and analysed by the same researcher – and was analysed several years following data collection.

4.2.7. Overall status at 24 and 36 months for the SIH treatment group

Table 5. ***Drug treatment status at 24 and 36 months for those assigned to the SIH treatment group***

	24 months		**36 months**	
Drug treatment status	**N**	**Percent**	**N**	**Percent**
SIH	25	58	21	49
OM	11	26		
MXL	1	2		
OST			7	16
Buprenorphine	1	2		
Did not start	1	2	1	2
Deceased	2	5	2	5
Detoxed/drug free	2	5	1	2
Discharged			6	14
Missing data / unknown			5	12
Total	43	100	43	100

43 patients were assigned to SIH treatment. 42 started this treatment and one dropped out. Between baseline and six months, 38 continued on SIH, one moved to OST, and four were DNA/missing data. By six months, 38 are on SIH, four are missing/DNA, and one remains on OST. Between six months and 12 months 32 remain on SIH, three move to OST, three are DNA/missing, one remains on OST and four remain missing/DNA. By 12 months 32 are on SIH, seven are missing and four are on OST. Between 12 months and 18 months 28 continue on SIH, two move to OST, and two are missing/DNA. Of the four from OST, two remain on OST, and two are missing/DNA. Of the seven who were missing/DNA at 12 months, all remain so by 18 months. At 18 months 28 are on SIH, 11 are missing/DNA, and four are on OST. Between 18 months and 24 months 23 continue on SIH, two continue on OST, four move from SIH to OST, two DNAs are on SIH, one OST DNA, six DNAs are on OST, one DNA reached abstinence, two DNA remain so, and one OST and one SIH are deceased. By 24 months 25 are on SIH, three are missing, 12 are on OST, one is abstinent and two are deceased.

Between 24 months and 36 months, 19 continue on SIH, two move from OST to SIH, two patients are deceased, one moved from SIH to OST, five remain on OST,

one DNA is on OST, five from SIH are discharged, one abstinent at 24 months is discharged, five on OST DNA, and two previous DNAs discharge. By 36 months 21 are on SIH, and five who were on SIH are discharged. Seven are on OST, and a further eight are discharged (meaning 13 in total have discharged). A total of two patients are deceased.

Table 6. ***Mean daily (mg) dose of SIH at 24 and 36 months for those assigned to SIH treatment***

Heroin dose							
24 months				**36 months**			
Valid N	**Mean**	**SD**	**Min-Max**	**Valid N**	**Mean**	**SD**	**Min-Max**
24	343.5	208.6	80-760	18	267.5	221.7	55-800
Additional methadone dose							
24 months				**36 months**			
Valid N	Mean	SD	Min-Max	Valid N	Mean	SD	Min-Max
21	61.7	41.8	10-195	11	56.8	33.3	20-140

The mean daily SIH dose at 24 months was 343mg and the mean daily supplementary oral methadone dose was 62mg. The mean daily SIH dose at 36 months was lower, at 267mg; and the mean daily additional OM dose was also slightly lower at 57mg.

Table 7. ***Number of patients attending the clinic once daily versus twice daily for injections at 24 months and 36 months***

24 months			**36 months**			
Valid N	**Once a day N (%)**	**Twice a day N (%)**	**Valid N**	**Once a day N (%)**	**Twice a day N**	**Missing**
25	11 (44)	14 (56)	21	9 (43)	7 (33)	5 (23)

At 24 months there were a slightly higher percentage of participants attending the clinic twice a day for SIH injections than at 36 months, where there was a slightly

higher percentage attending once a day for injections. There was missing data on this variable at 36 months however.

Table 8. ***Mean SIH dose (mg) at 24 months and 36 months for once a day and twice a day patients***

Once a day injection							
24 months				**36 months**			
N	**Mean**	**SD**	**Min-Max**	**N**	**Mean**	**SD**	**Range**
11	202.7	52	80-270	9	139.4	69.5	55-250
Twice a day injection							
24 months				**36 months**			
14	462.7	218.2	80-760	7	371.4	172.3	160-700

Those attending the clinic for twice daily injections had almost double the daily dose of SIH compared to those attending the clinic once per day (203mg versus 463mg respectively), at 24 months. Both groups had reduced their daily dose by 36 months (by 64mg for the once daily group and 92mg for the twice daily group).

Table 9. ***Mean additional OM dose (mg) at 24 months and 36 months for once a day and twice a day patients***

Once a day injection							
24 months				**36 months**			
N	**Mean**	**SD**	**Min-Max**	**N**	**Mean**	**SD**	**Range**
11	56.25	27.9	10-100	5	78	37.7	40-140
Twice a day injection							
24 months				**36 months**			
N	Mean	SD	Min-Max	N	Mean	SD	Min-Max
14	65	49.3	15-195	5	37	19.9	20-65

The oral methadone dose had increased at 36 months (78mg) from 24 months (56mg) for the once a day injecting groups. The oral methadone dose had decreased from 24 months (65mg) to 36 months (37mg).

Table 10. ***Self-declared illicit drug and alcohol use in the past 30 days***

Heroin use	**24 months**			**36 months**			
N	**Yes N (%)**	**No N (%)**	**Missing N (%)**	**N**	**Yes N (%)**	**No N (%)**	**Missing N (%)**
21	1 (4)	20 (80)	4 (16)	21	4 (19)	12 (57)	5 (24)
Crack use	**24 months**			**36 months**			
N	**Yes N (%)**	**No N (%)**	**Missing N (%)**	**N**	**Yes N (%)**	**No N (%)**	**Missing N (%)**
20	3 (12)	17 (68)	5 (20)		4 (19)	12 (57)	5 (23)
Alcohol use	**24 months**			**36 months**			
N	**Yes N (%)**	**No N (%)**	**Missing N (%)**	**N**	**Yes N (%)**	**No N (%)**	**Missing N (%)**
21	12 (48)	9 (36)	4 (16)	21	9 (43)	7 (33)	5 (24)

Heroin use slightly increased from 24 months (4% using illicit heroin; 80% not using illicit heroin) to 36 months (19% using illicit heroin; and 57% not using illicit heron). Missing data remained around the same level at both time points. Crack use very slightly increased at 36 months (19%) compared to 24 months (12%), with missing data at roughly the same levels within and between groups. Alcohol use slightly decreased by 36 months (43%) compared to 24 months (48%).

Table 11. ***Number of patients reporting criminal activity in the preceding 30 days***

24 months				**36 months**			
N	**N Yes (%)**	**N No (%)**	**N Missing (%)**	**N**	**N Yes (%)**	**N No (%)**	**N Missing (%)**
21	1 (4)	20 (80)	4 (16)	21	4 (19)	12 (57)	5 (24)

Crime rates increased by 36 months (with 19%) reporting crime, compared to (only 4%) at 24 months.

Table 12. ***Mean Quality of Life Score (SF36) at 24 and 36 months for those assigned to SIH***

24 months			**36 months**		
N = 22 (missing n=3)	**Mental Score (MCS)**	**Physical Score (PCS)**	**N=14 (missing n=7)**	**Mental Score (MCS)**	**Physical Score (PCS)**
Mean	44.6	46.5	Mean	38.1	45.5
SD	9.5	13.8	SD	16.1	14.8
Min-Max	19-57	18-64	Min-Max	12-62	18-64

NB. Higher scores denote better status

Quality of life (mental health) was slightly higher at 24 months (M=45; SD=9.5) compared to 36 months (M=38; SD=16), with not much variation in physical health score from 24 months (M=46.5; SD=13.8) and 36 months (M=45.5; SD=14.8).

Table 13. ***Mean social functioning score (OTI) at 24 and 36 months for those assigned to SIH***

24 months				**36 months**			
N	**Mean**	**SD**	**Min-Max**	**N**	**Mean**	**SD**	**Min-Max**
24	14.25	5.8	4-28	17	12.8	4.8	3-24

NB. Higher scores denote worse functioning

Social functioning had improved by 36 months (M=13; SD=4.8) compared to 24 months (M=14; SD=5.8). On this measure lower scores denote better status. It may be that this measure is more sensitive for use with an illicit drug using population, since it is the drug use section of the Opiate Treatment Index.

4.2.8. Supervised Injectable Methadone

24-month data

These data pertain to those patients originally allocated to Supervised Injectable Methadone (SIM) treatment (n=42). Of those originally allocated to SIM treatment four stratified SIM patients did not start treatment. This is slightly higher than those assigned to SIH – whereby only one patient dropped out of treatment. However, this is lower than those assigned to OOM, where seven patients dropped out following randomisation. The following describes data at 24 months only, since only one SIM patient remained in SIM at 36 months.

Table 14. ***Drug treatment status at 24 and 36 months for those assigned to the SIM treatment group***

	24 months		**36 months**	
Drug treatment status	**N**	**Percent**	**N**	**Percent**
SIH	9	21	9	21.4
SIM	10	24	1	2.1
OM	17	40	17	40.5
Did not start	4	10	4	10
Missing	2	5	11	26
Total	42	100	42	100

42 patients were assigned to SIM treatment. 38 continue in SIM treatment and four DNA/are missing data. Between baseline and six months 35 continue on SIM, three move to OST, and four are DNA/missing. By six months 35 are on SIM, three are on OST, and four are DNA/missing. Between six and 12 months seven remain on SIM, 16 move from SIM to SIH, six move from SIM to OST, one DNA is on OST, six move from SIM to DNA, three move from OST to DNA, and three DNA/missing at six months remain so by 12 months. By 12 months seven are on SIM, 16 are on SIH, seven are on OST and 12 are missing/DNA. Between 12 and 18 months seven remain on SIM, 10 remain on SIH, one SIH moves to SIM, two SIH move to OST, seven on OST remain on OST, three SIH DNA/are missing and 12 DNA remain so. By 18 months, eight are on SIM, ten are on SIH, nine are on OST, and 15 are missing/DNA. Between

18 months and 24 months, seven remain on SIM, one OST moves to SIM, eight SIH continue on SIH, eight on OST remain on OST, eight DNAs are on OST, one SIH moves to OST, two DNAs are on SIM, one DNA is on SIH, one SIM is DNA/missing, one SIH is DNA/missing and four DNA remain so by 24 months. By 24 months, 10 are on SIM, nine are on SIH, 17 are on OST and six are missing/DNA.

Between 24 and 36 months, one SIM remains on SIM, three SIM move to SIH, six SIH remain in SIH, two SIM move to OST, 13 OST remain in OST, two DNA were on OST, four SIM DNA, three SIH DNA, four OST DNA and four DNA remain so. By 36 months one is on SIM, four discharge from SIM, nine are on SIH, 17 are on OST and a further 11 discharge (a total of 15 are discharged by 36 months).

Table 15. ***Mean daily dose of SIM at 24-months***

Daily SIM dose			
N	**Mean**	**SD**	**Min-Max**
6	88.3	38.7	30-150
Daily additional OM dose			
N	**Mean**	**SD**	**Min-Max**
6	55	39.4	20-110

The daily SIM dose was 88.3mg at 24 months and the additional OM dose was 55mg.

Table 16. ***Number of SIM patients attending the clinic once daily versus twice daily for injections at 24-months***

Once a day N	**Twice a day N**	**Missing data / unknown**
8	0	2

Patients only attended the clinic once a day for supervised methadone doses.

Table 17. ***Self-declared illicit drug and alcohol use in the past 30 days***

Illicit heroin use						
N	**Yes**	**%**	**No**	**%**	**Missing data/ Unknown**	**%**
10	4	40	2	20	4	40
Crack use						
N	**Yes**	**%**	**No**	**%**	**Missing data/ Unknown**	**%**
10	2	20	4	40	4	40
Alcohol use						
N	**Yes**	**%**	**No**	**%**	**Missing data/ Unknown**	**%**
10	3	30	3	30	4	40

Table 18. ***Number of patients reporting criminal activity in the preceding 30 days***

N	**Yes**	**No**	**Missing data/ Unknown**
10	0	6	4

No participants retained in SIM treatment for 24-months report criminal activity at 24 months, however there was a relatively large amount of missing data.

Table 19. ***Mean Quality of Life Score (SF36) at 24-months for those assigned to SIM***

N = 5 (missing N=4)	**Mental Component Score (MCS)**	**Physical Component Score**
Mean	31.20	46.8
SD	11.6	8
Range	17-49	39-59

NB. A higher score denotes better status

Table 20. ***Mean social functioning score (Opiate Treatment Index; OTI)***

N	Mean	SD	Min-Max
6	19.5	4.1	15-25

NB. Higher scores denote worse functioning

4.3. Is treatment outcome associated with treatment episode length?

4.3.1. Overview

The previous section illustrates the complexity of movement amongst patients who undertook the three year RIOTT trial. The previous section outlines descriptive data for those patients who began in one of the injectable treatment conditions (either SIH or SIM) and who remained in their assigned treatment at 24 and 36 months. The following section aims to identify whether treatment episode length is associated with better outcome status amongst a sub-sample of those in the RIOTT trial; comprising those who ever received injectable heroin treatment during the RIOTT trial. Sample sizes for the following data are small, since there was a large degree of attrition from the RIOTT trial over time and research interviews were not comprehensively collected from all participants at the various data collection points. Since sample sizes for these data are small the intention is for the data to be descriptive only and illustrate patterns and trends that emerged as well as the complexity of movement over the three year RIOTT trial. These data provide the context for the later qualitative interview data with patients, by illustrating treatment trajectory. Mapping and statistical data address objectives 1-5.

4.3.2. Sample

The sample relates to those who ever received injectable heroin treatment only. The following section includes data for those who consented to long-term follow-up, who remained in treatment at the various longitudinal data collection points, and for whom complete data was available (i.e., those who completed research interviews).

4.3.3. Predictor variable

Treatment episode may be several different episodes combined to form one period of time (e.g., a treatment period of six months, with a break for another treatment or time spent out of treatment, followed by another 12 months in treatment; hence

treatment episode is 18 months, for this patient). This variable differs to the different data collection points of relevance to the RIOTT trial – whereby data was collected at 3 months, 6 months, 12 months, 18 months, 24 months and 36 months for each patient. The predictor variable here relates to how long the treatment episode is for the patient (e.g., those in treatment for 3 months in total, 12 months in total, and 36 months in total). One patient may have several treatment episodes: one of 3 months, one of 6 months and one of 24 months, for example. Another patient may have only one treatment episode; 36 months.

4.3.4. Predictions

The prediction across all outcome variables (use of illicit heroin, use of crack, alcohol use, crime status, social functioning status, and quality of both physical and mental well-being) is two-sided; that the length of treatment duration will affect status or outcome.

4.3.5. Outcome measures

Outcome measures include the Opiate Treatment Index Social Functioning sub-scale and the SF36 quality of life scale (encompassing a mental health composite score and a physical health composite score).

For the SF36 quality of life data (mental and physical well-being) higher scores indicate better status and for the Opiate Treatment (OTI) Index data lower scores denote better status.

4.3.6. Results

Table 21. ***Illicit heroin use status in the context of heroin treatment episode length***

Length of heroin treatment episode	**Illicit heroin used N (%)**		**Total N (%)**
	Yes	**No**	
Baseline (Not yet received)	80 (100)	0	80
3 months	26 (60.5)	17 (39.5)	43
6 months	14 (38.9)	22 (61.1)	36
9 months	2 (50)	2 (50)	4
12 months	3 (15)	17 (85)	20
18 months	2 (25)	6 (75)	8
24 months	4 (16.7)	20 (83.3)	24
30 months	1 (25)	3 (75)	4
36 months	3 (27.3)	8 (72.7)	11

Of those who had received heroin for a treatment episode length of three months (and for whom there was research data available for) 60% had used illicit heroin (in the preceding 30 days) and 40% had not. Of those with a treatment episode length of six months and for whom we had research data available for 38% had use illicit heroin and 61% had not. Of those who had a treatment episode length of nine months 50% had used illicit heroin and 50% had not. Of those with a treatment episode length of 12 months (and for whom there was research data available) 15% used illicit heroin and 85% had not. Of those with a heroin treatment episode of 18 months 25% had used illicit heroin and 75% had not. A similar pattern continues, and of those with a treatment episode of 36 months 27% had used illicit heroin and 73% had not. This indicates that generally speaking heroin use decreased the longer patients remained in SIH treatment. There were fluctuations between those with a treatment episode of three to nine months. These data should be interpreted for illustrative purposes only.

Table 22. ***Illicit crack use status in the context of heroin treatment episode length***

Length of heroin treatment episode	**Crack used N (%)**		**Total N (%)**
	Yes	**No**	
Baseline (Not yet received)	62 (77.5)	18 (22.5)	80
3 months	27 (62.8)	16 (37.2)	43
6 months	23 (63.9)	13 (36.1)	36
9 months	2 (50)	2 (50)	4
12 months	12 (60)	8 (40)	20
15 months	1 (100)	0	1
18 months	4 (50)	4 (50)	8
21 months	0	2 (100)	2
24 months	2 (8.7)	21 (91.3)	23
30 months	2 (50)	2 (50)	4
33 months	0	1 (100)	1
36 months	2 (18.2)	9 (81.8)	11

Crack use remained consistent over time, with meaningful reductions only occurring for the 24-month and 36-month episode groups.

Table 23. ***Alcohol use status in the context of heroin treatment episode length***

Length of heroin treatment episode	**Alcohol used N (%)**		**Total N (%)**
	Yes	**No**	
Baseline (Not yet received)	42 (52.5)	38 (47.5)	80
3 months	26 (60.5)	17 (39.5)	43
6 months	19 (52.8)	17 (47.2)	36
9 months	3 (75)	1 (25)	4
12 months	9 (45)	11 (55)	20
18 months	2 (28.6)	5 (71.4)	7
24 months	10 (41.7)	14 (58.3)	24
30 months	2 (66.7)	1 (33.3)	3
36 months	7 (63.6)	4 (36.4)	11

Overall the pattern indicated that there were two groups; those who used alcohol and those who did not.

Table 24. ***Crime status in the context of heroin treatment episode length***

Length of heroin treatment episode	**Crime status N (%)**		**Total N (%)**
	Yes	**No**	
Baseline (Not yet received)	52 (65)	28 (35)	80
3 months	14 (12.6)	29 (67.4)	43
6 months	9 (25)	27 (75)	36
12 months	2 (10.5)	17 (89.5)	19
18 months	1 (12.5)	7 (87.5)	8
24 months	2 (8.3)	22 (91.7)	24
36 months	3 (27.3)	8 (72.7)	11

Interestingly as well as crime status being highest before participants had received heroin treatment, it rose again for the group who were in heroin treatment for 36 months.

Table 25. ***Physical wellbeing (quality of life) in the context of heroin treatment episode length***

Length of heroin treatment episode	**Quality of life: Physical Component Score**			
	N	**Mean**	**SD**	**Min-Max**
Baseline (Not yet received)	84	45.9	11.3	19-70
3 months	38	47.2	13	22-69
6 months	36	49	12.2	22-67
12 months	11	48.4	12.3	27-67
15 months	1	32		
18 months	9	50	12.4	25-63
21 months	2	41	32.5	18-64
24 months	26	48.2	12.6	20-68
30 months	4	47	9.4	33-53
33 months	1	18		
36 months	9	46.7	13.2	20-60

*A higher score denotes better status

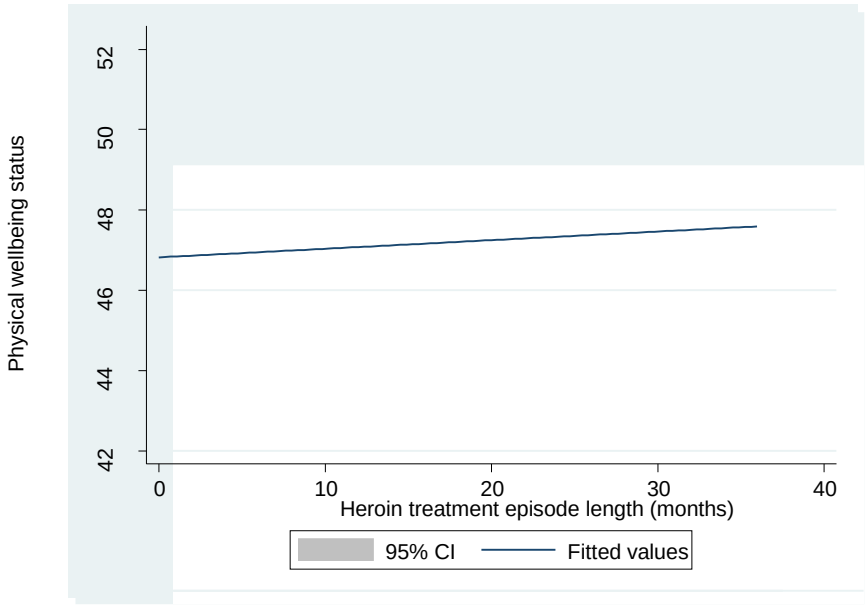

Figure 5. ***Physical wellbeing (SF36) in the context of heroin treatment episode length status***

The graph illustrates that there was no noticeable change in quality of life (physical component) amongst the various treatment episode length groups.

Table 26. ***Mental wellbeing (quality of life) in the context of heroin treatment episode length***

Length of heroin treatment episode	Quality of life: Mental Component Score			
	N	**Mean**	**SD**	**Min-Max**
Not yet received	84	35	12.9	6-64
3 months	38	38.7	13	14-64
6 months	36	41.2	12.2	10-61
12 months	11	32.8	15.1	6-56
15 months	1	15		
18 months	9	37	13.9	11-58
21 months	2	31	17.7	19-44
24 months	26	43.6	10.9	14-57
30 months	4	40.5	13.2	27-58
33 months	1	35		
36 months	9	42.9	16	12-62

*A higher score denotes better status

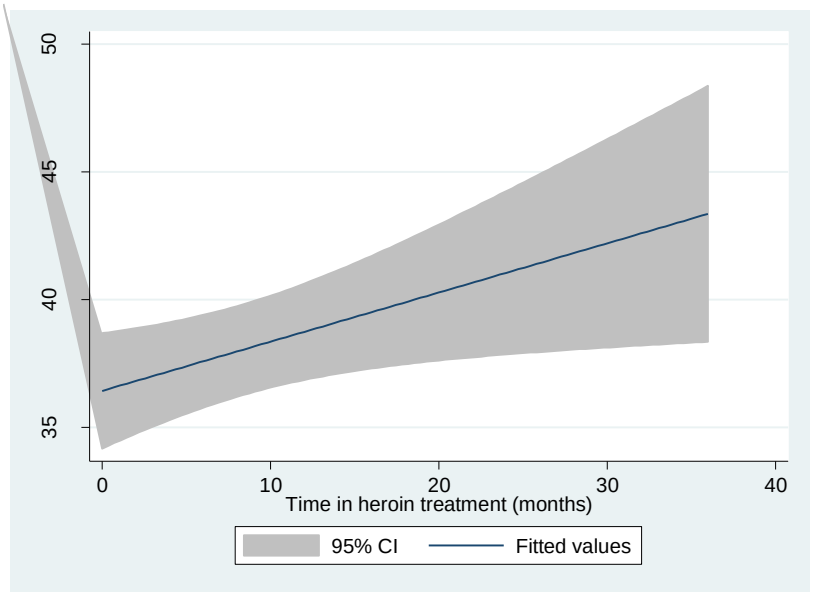

Figure 6. ***Mental wellbeing in the context of length of treatment episode status***

The graph illustrates that there was a slight increase in mental wellbeing status score the longer participants had spent in heroin treatment.

Table 27. ***Physical wellbeing (quality of life) in the context of heroin treatment episode length***

Length of heroin treatment episode	**Quality of life: Physical Component Score**			
	N	**Mean**	**SD**	**Min-Max**
Not yet received	86	19.5	5.4	8-36
3 months	44	17.8	5.9	6-31
6 months	37	17.6	5.3	6-28
9 months	3	13.7	2	12-16
12 months	18	15.5	6.1	6-28
18 months	9	16.1	5.3	9-24
21 months	2	13	1.4	12-14
24 months	27	13.3	4.9	4-25
30 months	5	11.8	2.6	8-15
33 months	1	10		
36 months	13	11.9	4.3	3-20

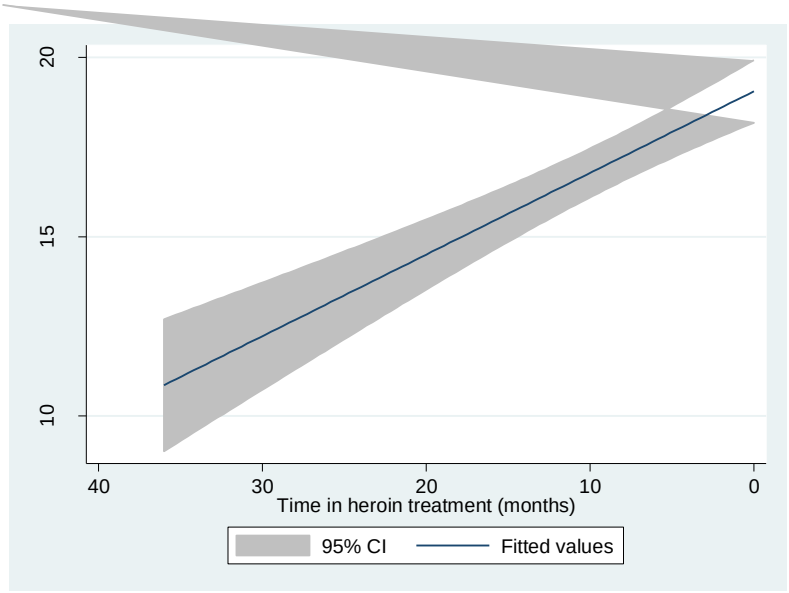

Figure 7. ***Social functioning status (OTI) in the context of heroin treatment episode length***

Once again there was an increase in social functioning status (lower scores denote better status on this measure hence the reversing of scores on the x axis).

4.4. Paired samples T-tests examining length of treatment episode on outcome status

Following descriptive illustration of mean scores - as illustrated above - further analyses (using t-tests) examined differences between mean baseline (OTI and SF36) scores, and scores at the respective longitudinal time points - length of treatment episode: 3 months, 6 months, 12 months, 18 months, 24 months and 36 months. It should be noted that t-tests analyses will only include participants for whom we have complete questionnaire data for and patients who have remained in treatment for the entire duration for which the analyses apply to (for example, they have remained in treatment from baseline through to three months, or from baseline through to six months, et cetera). The T-test data is within-subjects' (those who are in SIH treatment at baseline, and have remained so at the longitudinal data collection point) data, and the previous analysis of means is between-subjects (each participant has been classified according to their treatment episode length). Previous tables of means (tables 21-27) include all participants who have a treatment episode of the respective time stated (e.g., three months), therefore will include those who may have left and re-entered treatment, yet their overall treatment episode length is the time stated. Hence sample sizes and mean scores differ slightly different in some cases (tables 28-30 have slightly smaller sample sizes, beyond the three-month episode length as only includes those who have remained in treatment consistently over time, rather than dropping out and re-entering as per some participants included in tables 21-27). These analyses are illustrated in tables 28-30 and discussed in section 4.4.1 below.

It is cautioned that due to the complicated nature of movement across treatment conditions, and the need for the creation of a treatment episode length variable (encompassing all participants with that treatment episode length in tables 21-27 and only those who have remained consistently in treatment over time in tables 28-30), these data are illustrative only - to indicate movement and trends of improvement over time - rather than statistically conclusive.

Table 28. ***Comparing baseline mental health scores (using the SF36 quality of life measure) to mental health scores over time***

SF36 Mental health status	**Baseline - 3 months**		**Baseline – 6 months**		**Baseline – 12 months**		**Baseline – 18 months**		**Baseline – 24 months**		**Baseline – 36 months**	
N	38		34		7		7		24		9	
Mean (SD)	36 (11.2)	38 (13)	36.6 (11)	41.5 (13.5)	38.1 (15.9)	34.1 (14.7)	31.1 (19.9)	37.3 (14.6)	38.5 (12.3)	43.8 (10.7)	39 (14.8)	42.9 (16)
SE	1.8	2.1	1.9	2.3	6	5.6	19.9	14.6	2.5	2.2	4.9	5.3
95% CI	32.3–39.7	34.4–43.0	32.7–40.4	36.8-46.2	23.4 – 52.8	20.5 – 47.8	12.8 – 49.5	23.8 – 50.8	33.3-43.7	39.3-48.3	27.6-50.4	30.6-55.2
Mean group difference (SD)	2.7 (13.6)		4.9 (15.2)		-4 (22.5)		6.14 (11.7)		5.3 (18.8)		3.9 (26.5)	
95% CI	-1.7 – 7.2		-.4 - 10.2		-24.8 – 16.8		-4.7 – 17		-2.6 – 13.3		-16.5 - 24.3	
SE	2.2		2.6		8.5		4.4		3.8		8.8	
T, df, p	t(37)=1.2. *p=0.2* (ns)		t(33)=1.9, *p=0.07***		t(6)=0.5, p=0.6 (ns)		t(6)=1.4, p=0.2 (ns)		t(23)=1.4, p=0.2 (ns)		t(8)=0.4, p=0.7 (ns)	

**Significant at the 0.10 level (i.e., approaching significance).

Table 29. ***Comparing baseline physical health scores (using the SF36 quality of life measure) to physical health scores following over time***

SF36 physical health status	**Baseline - 3 months**		**Baseline – 6 months**		**Baseline – 12 months**		**Baseline – 18 months**		**Baseline – 24 months**		**Baseline – 36 months**	
N	38		34		7		7		24		9	
Mean (SD)	44.6 (10.6)	47.2 (13)	44.3 (10.7)	49.6 (12)	51.3 (11.5)	48.6 (11.6)	47.6 (7)	53.1 (9)	46.3 (12.4)	48.8 (12.2)	46.3 (10.7)	46.7 (13.2)
SE	1.7	2.1	1.8	2	4.3	4.4	2.6	3.4	2.5	2.5	3.6	4.4
95% CI	41.1 - 48	42.9 – 51.5	40.6 – 48.1	45.4 – 53.8	40.6 – 61.9	37.9 – 59.3	41.1– 54.1	44.7– 61.5	41.1 – 51.6	43.6 - 54	38 – 54.6	36.5– 56.9
Mean group difference (SD)	2.6 (11.7)		5.2 (10)		-2.7 (15.8)		5.6 (4.5)		2.4 (14)		0.3	
SE	1.9		1.7		6		1.7		2.9		2.5	
95% CI	-1.2 – 6.5		1.7 – 8.7		-17.3 – 11.9		1.4 – 9.7		-3.5 – 8.4		-5.4 – 6.1	
T, df, p	t(37)=1.4, p=0.2 (ns)		t(33)=3, *p=0.005**		t(6)= -0.4, p=0.7 (ns)		t*(6)=3.3, p=0.02**		t(23)=0.8, p=0.4 (ns)		t(8)=0.1, p=0.9 (ns)	

*Significant at the <0.05 level

Table 30. ***Comparing baseline social functioning status score (using the OTI measure) to social functioning over time***

OTI social functioning status*	**Baseline - 3 months**		**Baseline – 6 months**		**Baseline – 12 months**		**Baseline – 18 months**		**Baseline – 24 months**		**Baseline – 36 months**	
N	44		36		15		8		26		13	
Mean (SD)	18.6 (5.3)	17.8 (5.9)	19.4 (6.2)	17.8 (5.2)	19.6 (6.3)	14.2 (5.8)	22.5 (7.5)	16.6 (5.5)	18.5 (5.6)	13.5 (4.9)	16.7 (6)	12 (4.3)
SE	0.8	0.9	1	0.9	1.6	1.5	2.7	1.9	1.1	1	1.7	1.2
95% CI	17 – 20.1	17 – 20.1	17.3 - 21.5	16.1 – 19.6	16.1 – 23.1	10.9 – 17.4	16.2– 28.8	12 – 21.2	16.2 – 20.8	11.5 – 15.5	13 – 20.3	9.3 – 14.5
Mean group difference (SD)	0.8 (5.8)		1.6 (5.6)		5.4 (8.2)		5.9 (9.7)		5 (7.9)		4.8 (7.8)	
SE	0.9		0.9		2.1		3.4		1.5		2.2	
95% CI	-1.0 – 2.5		-0.3 – 3.5		0.8 - 10		-2.2 - 14		1.8 – 8.1		0.03 – 9.5	
T, df, p	t(43)=0.9, p=0.4 (ns)		t(35),p=0.09**		*t(14)=2.5, p=0.02***		t(7)=1.7, p=0.1 (ns)		*t(25)=3.2, p=0.004****		*t(12)=2.2, p=0.05****	

*Lower score denotes better status

**Significant at the <0.10 level (i.e., approaching significance)

***Significant at the <0.05 level

4.4.1. T-Test results

The T-tests again illustrate the trend for status to improve the longer the treatment episode. There were statistically significant p-values across the following comparisons:

The mental health status comparison approached significance: Baseline (M=36.6; SD=11) to six month (M=41.4; SD=13.5) comparison: t(33)=1.9; p=0.07.

The physical health status variable was significant for the baseline (M=44.3; SD=10.7) to six month (M=49.6; SD=12) comparison: t(33)=3; p=0.005.

The social functioning status variable was significant for the baseline (M=19.4; SD=6,2) to 12 month (M=17.8 SD=5.2) comparison: t(14)=2.5; p=0.02; the baseline (M=18.5; SD=5.6) to 24 month (M=12; SD=4.3) comparison: t(25)=3.2; p=0.005; and the baseline (M=16.7; SD=6) to 36 month (M=12; SD= 4.3) comparison: t(12)=2.2; p=0.05.

4.5. Discussion of the results

Overall the chapter addresses objectives 1-5: to determine the long-term trajectory of patients receiving IOT; to illustrate broad outcomes over 36 months for those receiving IOT; to determine the length of time patients receive IOT and whether they move away from IOT to oral treatment routes or abstinence; to determine treatment outcome (including drug use status; health status; social functioning status; and discharge status) of patients receiving IOT long-term; to describe IOT received (including mean daily dose; and number of injections received per day); and to determine whether IOT treatment duration affects treatment outcome status (including drug use status; alcohol use status; health status; and social functioning status).

The first section of the chapter outlines descriptive data across both injectable treatment groups over the 36-month data collection period. This illustrates the complexity of movement by patients through the treatment trajectory. It illustrates that there are general trends of improvement; and that gains made by six months of treatment are sustained longer-term. The results of the T-tests show that there was a significant improvement in mental health quality of life score for comparisons of these

measures at six months, when compared to baseline. The t-tests also show a significant improvement in physical health status from baseline to six month comparisons, and significant improvements from baseline to various longitudinal episode durations for the social functioning scale. It appears that the OTI social functioning scale may be more sensitive to detect meaningful changes in an illicit drug using population than the SF36 quality of life surveys.

One of the central findings of this chapter is that a large number of patients from both the SIM (N=16) and the OOM (N=16) groups moved onto SIH treatment as soon as they were able to (between six months and 12-months of the trial). The fact that patients remain in their assigned condition until this point and then move to SIH is very interesting and has implication for research examining factors affecting retention to treatment. From this data it is clear that simply the promise of SIH was a strong motivator to keep patients engaged with treatment. It could be argued that remaining in treatment for the initial six months of the trial (albeit in a less appealing treatment) may have had a positive effect on participants' engagement with the treatment process, and benefitted overall outcome. This is very useful information for the research field, and accords to some degree with the contingency management/incentives for sobriety literature. Contingency management is the systematic reinforcement of desired behaviours, and the withholding of reinforcement or punishment of undesired behaviours, and is found to be an effective strategy in the treatment of alcohol and other drug use disorders (Higgins and Petry, 1999). When the motivation is strong enough and the reward reinforcing enough, participants are able to remain in their treatment programmes. This is in the context of 32 (of the original 43 in this condition) patients who were originally assigned to SIH treatment, remaining in this treatment during the six and twelve-month data collection points. Once again, this is a very important finding. Patients are clearly very motivated by SIH, to remain in their assigned treatment long-term, and for others in other treatments to continue in their assigned treatment until the point at which they are able to move to SIH. The promise of SIH at a later date appeared to be a hugely motivating factor to treatment retention for patients, and thereby, likely overall wellbeing and eventual recovery.

It is noteworthy that one patient assigned to OOM remained abstinent from illicit and maintenance medication from 24 months onwards – until the time of qualitative interviews, which was a number of years later. The researcher spoke to this patient on the phone during recruitment to the qualitative study. Unfortunately he was not eligible to be interviewed for the qualitative study, since he did not undertake

injectable treatment at all during the RIOTT trial. Further research may wish to examine with patients, their perspectives on why optimised oral methadone treatment is more effective than oral methadone treatment, or why this treatment was successful, when in the past methadone had not been. Whilst it is very interesting to view the trajectory and complexity of movement amongst patients undertaking the IOT trial, this quantitative mapping does not outline the reasons why patients moved when they did. This will be explored to some degree in later chapters through qualitative interviewing with patients. The chapter usefully provides the context for which the experience of IOT can be explored with patients directly, through qualitative interviewing.

Overall, due to the complicated nature of the treatment trial (i.e., whereby patients frequently moved from one treatment to another over the 36-month period of observation) the quantitative analysis does not yield additional information about longitudinal IOT. The quantitative chapter usefully illustrates and describes the sample's activity and movement during IOT, and highlights the need for qualitative research with the UK IOT population to illustrate in more detail patients' experiences and perceptions.

Chapter 5 – Injectable Opiate Treatment patient typologies

The following chapter describes the formation of patient typologies for those taking part in the qualitative research, detailed in the subsequent six chapters of findings.

Patients are those who were assigned to receive six months of specified treatment (either SIH, SIM, OOM) and who could then move to other treatment modalities, following appropriate clinical review. The trajectory was different for different patients; with some, for example, beginning their treatment trajectory on SIM treatment, moving to SIH at 6 months and then moving to Slow Release Oral Morphine (MXL) or oral methadone at 24 or 36 months. Another patient, for example, may have begun on SIH treatment and remained on SIH for a period of 36 months, and then in the years beyond, right up until the point he or she was interviewed.

Of particular pertinence to the patient qualitative data and analysis was the conception of a patient typology. The dataset for the qualitative patient data was analysed as a whole, using thematic analysis (as outlined). However, to view this data in the context of the patient's overall trajectory, typologies were created and are identified for each patient that is subsequently quoted. The following section outlines how these typologies were formed in more detail (in type and number) and highlights each patient's overall typology designation. Analysis of qualitative data was interpreted in the context of the patient's typology (that is, what treatment they were assigned to at referral to IOT, and whether their discharge status was positive: i.e., voluntary; negative: compulsory; or ongoing: long-term IOT). All patients interviewed were those who had, at some point over the 36-month trial period, received injectable treatment.

Table 31. ***Overall typology status across the qualitative patient sample***

Positive discharge status	Negative discharge status	Negative discharge (other)	Clinic closure	Long-term SIH	Total
N=13	N=8	N=3	N=4	N=13	N=41

Positive discharge status included voluntary movement to other treatment types – such as oral methadone (OM) and MXL), and voluntary movement to residential detox. This also included patients who declined the offer of SIH treatment at six

months, and either stayed on OOM or SIM or moved on to SIM or OOM instead. Negative discharge status included being ejected from treatment – such as for protocol violations (for example, attempting to take medication home or hostile behaviour), or illicit use (including benzodiazepines, heroin and crack).

Those categorised as 'discharge other' included patients who were sent to prison, hospitalised for other (unrelated to trial medication) health conditions, or who experienced adverse reactions during IOT. A full table of patient trajectories is illustrated in table 35 which demonstrates on what basis typologies were created. Typologies were created in collaboration with academic supervisors, one of whom was trial coordinator for the RIOTT trial, to ensure clinical meaningfulness of this process. Within all subsequent qualitative chapters, typologies will be indicated for each patient in analysis and write-up. This allows interpretation of findings in relation to the specific treatments patients received, and interpretations can be made in the context of the treatment trajectory. This procedure is in congruence with the aim of the thesis (to describe the long-term treatment trajectory of these patients).

Clinic closure applied to patients in long-term treatment in Darlington who were compulsorily moved back on to OM following the Darlington IOT clinic closure. Long-term SIH included those patients still in SIH treatment at the time of interview (in some cases for up to seven years). In the present day these patients will no longer be in SIH, following recent (March 2015) closure of all IOT clinics at the three sites, yet they were maintained in IOT at the time of interview (August 2013 – January 2014).

Table 32. ***Participants by discharge status for those originally assigned to SIH treatment*** **(N=16)**

Positive discharge status (N=7)	**Clinic closure (N=3)**	**Long-term SIH (N=5)**
Jack (ID 2)	Robert (ID 28)	Ben (ID 15)
Charlie (ID 3)	Wes (ID 31)	Oliver (ID 16)
Serina (ID 6)	Kevin (ID 33)	Gerry (ID 20)
Tom (ID 9)		Lee (ID 36)
Nicholas (ID 14)		Josh (ID 41)
Pam (ID 19)		
Ellie (ID 22)		

NB. There were no 'Negative (other)' statuses in this treatment group.

Table 33. ***Participants by discharge status for those originally assigned to SIM treatment*** **(N=17)**

Positive discharge status (N=6)	Negative discharge status (N=4)	Negative discharge (other N=3)	Clinic closure (N=1)	Long-term SIH (N=4)
Stacy (ID 6)	Matthew (ID 17)	Daniella (ID 1)	Wayne (ID 1)	Sammy (ID 11)
Harry (ID 8)	Euan (ID 38)	Jacob (ID 4)		Fran (ID 13)
Iain (ID 25)	Rita (ID 29)	Clara (ID 7)		Shane (ID 21)
Elena (ID 37)	Richard (ID 34)			Ron (ID 27)
Cheryl (ID 40)				

Table 34. ***Participants by discharge status for those originally assigned to OOM treatment*** **(N=9)**

Positive discharge status (N=1)	Negative discharge status (N=4)	Clinic closure (N=0)	Long-term SIH (N=4)
Andy (ID 23)	Luke (ID 18)		Fay (ID 10)
	Trevor (ID 24)		Reg (ID 12)
	Jason (ID 26)		Scott (35)
	Susie (ID 32)		Patrick (ID 39)

NB. There were no 'Negative (other)' statuses in this treatment group.

Overall there were 13 different patient typologies:

1. Positive discharge; SIH
2. Positive discharge; SIM
3. Positive discharge; OM
4. Negative discharge; SIH
5. Negative discharge; SIM
6. Negative discharge; OM
7. Negative discharge (other); SIM
8. Discharge clinic closure; SIH
9. Discharge clinic closure; SIM
10. Discharge clinic closure; OM
11. Long-term IOT; SIH
12. Long-term IOT; SIM
13. Long-term IOT: OM

Table 35. ***Full table of participant trajectories; formation and description of typology***

Pseudonym (ID)	Sex	Age	Clinic locality	Original treatment (tx) assignment	Injectable tx drug: SIH, SIM or both	IOT discharge status	Current tx status	Time spent in SIH during trial (months)	Time spent in SIM during trial (months)	Time spent in OOM during trial	Time since trial entry	Responder status at 6 months (UDS)	Final typology
Daniella (ID 1)	F	47	London	SIM	SIM	Hospitalised	OM		24	12	6 years, 8 months	Unknown (clinical error)	Negative Other
Jack (ID 2)	M	41	Brighton	SIH	SIH	Voluntary detox	Tx free	9		6	6 years, 2 months	Responder	Positive
Charlie (ID 3)	M	49	London	SIH	SIH	Voluntary move to MXL	Tx free	36			7 years, 9 months	Non-responder	Positive
Jacob (ID 4)	M	46	Brighton	SIM	SIM	Skin reaction to SIM	OM		24		4 years, 4 months	Non-responder	Negative Other
Stacy (ID 5)	F	35	Brighton	SIM	SIM	Voluntary detox	OM		24		5 years, 11 months	Non-responder	Positive
Serina (ID 6)	F	37	Brighton	SIH	SIH	Voluntary move to OM	OM	6		12	5 years, 8 months	Responder	Positive
Clara (ID 7)	F	45	London	SIM	SIM	Prison	OM		6		8 years	Unknown (DNA)	Negative Other

Harry (ID 8)	M	50	London	SIM	Both	Voluntary move to OM	Tx free	30	6		6 years, 1 month	Unknown (DNA)	Positive
Tom (ID 9)	M	47	Brighton	SIH	SIH	Voluntary detox	Buprenorphine	36			6 years	Responder	Positive
Fay (ID 10)	F	43	Brighton	OM	SIH	Retained	SIH	18	6	6	5 years, 1 month	Non-responder	Long-term IOT
Sammy (ID 11)	M	39	Brighton	SIM	Both	Retained	SIH	3	9		6 years, 1 month	Unknown (planned absence: PA)	Long-term IOT
Reg (ID 12)	M	57	London	OM	SIH	Retained	SIH	30			7 years, 9 months	Non-responder	Long-term IOT
Fran (ID 13)	F	46	London	SIM	Both	Retained	SIH	24	6		9 years, 9 months	Non-responder	Long-term IOT
Nicholas (ID 14)	M	48	London	SIH	SIH	Voluntary move to OM	OM	24			6 years, 11 months	Responder	Positive
Ben (ID 15)	M	47	Brighton	SIH	SIH	Retained	SIH	15			5 years, 1 month	Unknown (PA)	Long-term IOT
Oliver (ID 16)	M	59	Brighton	SIH	SIH	Retained	SIH	36			5 years, 4 months	Responder	Long-term IOT

Matthew (ID 17)	M	52	London	SIM	Both	Compulsory discharge (behaviour)	Tx free	6	18		7 years, 11 months	Responder	Negative
Luke (ID 18)	M	48	London	OM	SIH	Compulsory discharge (sedation/ benzo use)	OM	24		12	4 years, 11 months	Non-responder	Negative
Pam (ID 19)	F	48	London	SIH	SIH	Voluntary move to MXL	MXL	18			5 years, 11 months	Responder	Positive
Gerry (ID 20)	M	52	Brighton	SIH	SIH	Retained	SIH	36			5 years, 11 months	Responder	Long-term IOT
Shane (ID 21)	M	51	London	SIM	Both	Retained	SIH	30	6		7 years, 3 months	Non-responder	Long-term IOT
Ellie (ID 22)	F	41	London	SIH	SIH	Voluntary move to MXL	MXL	36			5 years, 4 months	Responder	Positive
Andy (ID 23)	M	38	London	OM	SIH	Voluntary move to MXL	MXL	6			6 years, 6 months	Non-responder	Positive
Trevor (ID 24)	M	45	London	OM	SIH	Compulsory discharge (benzo use)	OM	24		6	7 years, 3 months	Non-responder	Negative
Iain (ID 25)	M	49	London	SIM	SIM	Voluntary move to OM (declined SIH)	OM		6		6 years, 9 months	Non-responder	Positive

Jason (ID 26)	M	43	London	OM	SIH	Compulsory discharge (ongoing crack use)	OM	18			5 years, 8 months	Responder	Negative
Ron (ID 27)	M	49	London	SIM	Both	Retained	SIH	30	6		7 years, 6 months	Non-responder	Long-term IOT
Robert (ID 28)	M	35	Darlington	SIH	SIH	IOT clinic closure	OM	24			7 years, 1 month	Responder	IOT clinic closure
Rita (ID 29)	F	54	Darlington	SIM	SIH	Discharged - violation of protocol (tried to take IOT home)	OM		12		7 years, 3 months	Non-responder	Negative
Wayne (ID 30)	M	47	Darlington	SIM	SIM	IOT clinic closure	OM	12	24		6 years, 7 months	Responder	IOT clinic closure
Wes (ID 31)	M	39	Darlington	SIH	SIH	IOT clinic closure	OM	24		12	6 years, 7 months	Responder	IOT clinic closure
Susie (ID 32)	F	38	Darlington	OM	SIH	Discharged - continued illicit use	OM	18			5 years, 9 months	Non-responder	Negative
Kevin (33)	M	40	Darlington	SIH	SIH	IOT clinic closure	OM	24			5 years, 5 months	Responder	IOT clinic closure

Richard (34)	M	44	Darlington	SIM	Ejected - Valium use	IOT clinic closure	OM	6	12		5 years, 10 months	Responder	Negative
Scott (35)	M	43	London	OM	SIH	Retained	SIH	12		3	6 years, 8 months	Non-responder	Long-term IOT
Lee (36)	M	50	London	SIH	SIH	Retained	SIH	36			7 years, 6 months	Responder	Long-term IOT
Elena (37)	F	51	London	SIM	Both	Progressed to MXL	MXL	30	6		7 years, 10 months	Responder	Positive
Euan (38)	M	47	London	SIM	Both	Prison	OM	6	12	6	6 years, 9 months	Non-responder	Negative Other
Patrick (39)	M	39	London	OM	SIH	Retained	SIH	24			6 years, 6 months	Non-responder	Long-term IOT
Cheryl (40)	F	38	London	SIM	SIM	Voluntary move to OM	OM		6		5 years, 11 months	Responder	Positive
Josh (41)	M	36	Brighton	SIH	SIH	Retained	SIH	36			6 years, 2 months	Non-responder	Long-term IOT

Final typologies included for reference against all quotes outlined in the following six chapters of qualitative findings included: participants' discharge status (positive discharge; negative discharge; long-term IOT, and clinic closure), and original treatment assignment (SIH, SIM, OM).

5.1. Analysis and tabulation of qualitative themes by patient typology

The original intention for the creation of typologies was to illustrate main similarities and differences (in themes) emerging across the typologies. However, following the analysis of themes by typology it was only in rare cases where a theme was not applicable to the majority – if not all – of the typologies, and where this was the case it was most often the clinic closures who did not fall under a particularly theme. The conclusion for this was that the clinic closures were a very small sub-sample, encompassing four patients in Darlington whose discharge status from IOT had been because the Darlington clinic had closed. It was decided that it was not useful to structure the qualitative findings according to typology, and that typologies would be referred to in the text of each section instead, where there was something that occurred that was possibly relevant to typology.

The following section outlines main similarities and differences that were found across themes as a function of typology. The 'Heroin use history' chapter was not analysed by typology as this encompassed the period of time prior to participants entering IOT, and so not relevant to subsequent IOT typology. Referral to IOT, Experiences with IOT, Impact of IOT, Recovery, and Current situation and goals for the future were analysed according to typology. The following tables will assist interpretation of the following qualitative themes in the context of their respective typologies.

5.1.2. 'Referral to Injectable Opiate Treatment' chapter themes tabulated by typology

Table 36. ***'Referral to IOT' chapter themes tabulated by typology***

Theme	Sub-theme	Typologies	Typologies not included in a theme/sub-theme
Motivations	Failings of conventional treatment	All typologies (long-term IOTs, positive dischargers, negative dischargers, clinic closures)	
	Free heroin	Long-term IOTs	Clinic closures
		Positive dischargers	
		Negative dischargers	
	Motivated by others	All	
	Desire for change	All	
Expectations	Positive expectations	All	
	IOT maintenance	Long-term IOTs (particular prominence)	Clinic closures
		Positive dischargers	
		Negative dischargers	
Perceptions	Positive expectations	All	

	Scepticism and resistance	All	
Goals	Stability and normality	Long-term IOTs	Negative dischargers
		Positive dischargers	
		Clinic closures	
	Cessation and reduction of illicit use	All	
	Disengagement with the drugs subculture	All	
	Improve family relationships	Long-term IOT	Positive dischargers
		Negative Discharges	
		Clinic closures	
	Harm reduction	Long-term IOTs	Clinic closures
		Positive dischargers	Negative dischargers
	The absence of goals at treatment outset	All	

As is illustrated, free heroin was not a theme mentioned by the small sample of clinic closures, but this is likely due to the small sample size of this typological group. Sub-theme IOT maintenance (within the 'Expectations theme) was also experienced by all patients, aside from clinic closures. Long-term IOT's had particular prominence in this sub-theme. Interestingly, the only typology not mentioning the desire for stability and normality (as part of the goals theme) were the negative dischargers. To 'improve family relationships' was a goal to all typologies, aside from positive dischargers. It is of note that the harm reduction typology is only of pertinence to long-term IOTs and positive dischargers. This is later discussed.

5.1.3. 'Experiences with IOT' chapter themes tabulated by typology

Table 37. ***'Experiences with IOT' chapter themes tabulated by typology***

Theme	Sub-theme(s)	Typologies	Typologies not included in a theme/sub-theme
Components of the regimen	Medication experiences – Experiences with SIH treatment – positive experiences	All	
	Comparisons to illicit heroin	Positive dischargers	Negative dischargers
		Long-term IOT	
		Clinic closures	
	Comparisons to SIM treatment		
	Disappointments or negative aspects of SIH treatment	All	
	Experiences with additional doses of oral methadone treatment – Negative experiences	Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOT	
	Experiences with SIM treatment –	All	

	Effectiveness of SIM treatment		
	Negative aspects of SIM treatment	All	
	Getting the right dose	All	
Route of administration	Intravenous – Positive comments	Positive dischargers	Long-term IOTs
		Negative dischargers	
		Clinic closures	
	Intravenous – Negative comments	Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	
Frequency of daily clinic attendance for supervised injecting	Preference for once a day attendance	Clinic closure	Long-term IOTs
		Positive discharger	
		Negative discharger	
	No objections to twice a day clinic attendance	Clinic closure	
		Long-term IOTs	
	Clinical injecting environment - positive	All	
Components of the regimen – holistic and psychological	Holistic and psychological	All	
	Supportive environment – staff	All	

	and keyworker (positive)		
	Negative perceptions of staff and keyworker	All	
	Positive perceptions of other patients in IOT	All	
	Person-centred care and autonomy over treatment decisions	All	
	Service-user involvement - positive	Positive Dischargers	Clinic closures
		Long-term IOTs	Negative dischargers
	Lack of autonomy and control over treatment decisions	Negative dischargers	Clinic closures
		Long-term IOTs	
		Positive dischargers	
	Individualised treatment journeys	Positive dischargers	Clinic closures
		Long-term IOTs	Negative dischargers
	Ambivalence about abstinence	All	
	Desire for long-term IOT	All	

	Patient control over treatment duration		
	Short-term IOT	Negative dischargers	Clinic closures
		Positive dischargers	Long-term IOTs
	Returning to OM treatment	Negative dischargers	Long-term IOTs
		Positive dischargers	
		Clinic closures	

Positive experiences with SIH were reported by nearly all participants interviewed, including all typologies. In terms of comparing IOT to illicit heroin, only the negative dischargers did not make reference to this factor in their analysis of SIH. All typologies, aside from clinic closures, spoke about negative aspects of additional oral methadone doses. Positive comments about the intravenous route of administration was spoken about by all typologies aside from long-term IOTs. Negative comments about the intravenous route of administration occurred across all typologies aside from the clinic closures. In terms of preferences about the number of times required to attend the clinic for dosing, only the long-term IOTs did not express a preference for once a day dosing. Those with no objections to twice a day injecting included clinic closures and long-term IOTs, indicating flexibility in this regard amongst both of these groups. Those citing service-user involvement activities as relevant to their recovery trajectory were positive dischargers and long-term IOTs. Negative dischargers and clinic closures did not mention this as a relevant aspect of their recovery. Clinic closures did not cite negative aspects relating to lack of control or autonomy, however this may again be due to small the sample size for this typology. The need for an individualised programme of recovery was cited by positive dischargers and long-term IOTs, but not negative dischargers or clinic closures. Typology was relevant to thoughts about treatment duration, with long-term IOTs anxious about IOT ending and positive and negative dischargers proponents of time-limited regimens. A return to OM treatment was experienced by all typologies (aside from long-term IOTs), albeit for different reasons, and typology was often relevant (e.g., violations to protocol or clinic closure, versus choosing to move back on to OM – i.e., a positive discharge).

5.1.4. 'Impact of Injectable Opiate Treatment' chapter themes tabulated by typology

Table 38. ***'Impact of IOT' chapter themes tabulated by typology***

Theme	Sub-theme(s)	Typologies	Typologies not included in a theme/sub-theme
Reducing or ceasing illicit drug use		All	
	Achieving abstinence-based recovery	All	
Improved quality of life		All	
Psychological recovery		All	
Leaving the drugs subculture		All	
Developing a non-using identity		Positive dischargers	Negative dischargers
			Long-term IOT
			Clinic closures
Education and courses		All	
Improved relationships		Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	
Improved health and harm reduction		Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	

Improved housing		All	
Achieving and maintaining stability		All	
Reflective awareness of recovery		Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	
Feeling grateful		Long-term IOTs	Clinic closures
		Positive dischargers	Negative dischargers
Protective factors	Service-user involvement	Long-term IOTs	Clinic closures
		Positive dischargers	Negative dischargers
	Caring for pets	Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	
	Relationships with family and dependents	Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	
	Reduced quality of illicit drugs	Positive dischargers	Clinic closures
		Negative dischargers	
		Long-term IOTs	

The majority of the dimensions of 'Impact of IOT' were experienced by all typologies. The development of a non-using identity was only highlighted by positive dischargers, which is perhaps not surprising. Improved relationships and health applied to all,

aside from the clinic closures. This could either be because these participants did not reach a point of experiencing these benefits, that they could not recall them, or because of the smaller sample size of this group. All but clinic closures indicated a self-reflective ability or awareness of their recovery journey. Whether this is due to the smaller sample size or an inability amongst this group to reflect positively following a forced discharge is unknown. Perhaps not surprisingly, the 'feeling grateful' theme applied to positive dischargers and long-term IOTs, however not to negative dischargers or clinic closures. Whether gratitude is a cause or effect/self-fulfilling prophecy is unknown and it may well be a combination of both that affects this aspect of recovery – that is, either a positively or negatively (reinforcing) cycle. The same pattern applies to those citing service-user involvement as a positive impact of IOT, however again, cause and effect is unknown. That caring for pets was a protective factor in recovery, and caring for dependents – or family relationships - was relevant to all typologies, aside from the clinic closures. A reduced quality of illicit drugs as a protective factor from illicit use (irrespective, or concomitant to) IOT was cited by all patients aside from the clinic closures. It may also be that geographical region was a factor here (with all clinic closures living in Darlington) in terms of the quality of illicit drugs, however this is obviously only speculation.

Overall, clinic closures did not appear to benefit as much as other treatment typologies had from the impact of IOT, however it was difficult to separate out negative effects arising because of forced clinic closure, from the clear smaller sample size of this group. It was likely that both factors had a role to play in the typological breakdown of themes derived from the sample.

5.1.5. 'Recovery' chapter themes tabulated by typology

Table 39. ***'Recovery' chapter themes tabulated by typology***

Theme	Sub-theme(s)	Typologies	Typologies not included in a theme/sub-theme
Individualised recovery		Positive dischargers	Clinic closures
		Long-term IOTs	Negative dischargers
Stability and functioning		All	
Health and harm reduction		Positive Discharger	Clinic closures
		Negative dischargers	
		Long-term IOTs	
Employment and financial stability		Positive dischargers	Clinic closures
		Long-term IOT	Negative dischargers
Abstinence-based recovery		All	
Cessation of use of illicit opiates		Positive Discharger	Clinic closures
		Negative dischargers	
		Long-term IOTs	
Ongoing maintenance treatment		All	
Ongoing support		Positive dischargers	Negative dischargers
			Clinic closures

			Long-term IOTs
Psychological adjustment	Recovering self-esteem	Positive dischargers	
		Negative dischargers	
	Psychotherapy	Positive dischargers	
Reintegration		All	
Making progress in treatment		All	
Protective factors and activities		All	
Barriers to recovery	Instability	All	
	Dissatisfaction	All	
	Health issues	Positive dischargers	Long-term IOTs
		Negative dischargers	
		Clinic closures	
	Continued use of illicit drugs	All	

That Recovery was seen as individual and personal was expressed by positive dischargers and long-term IOTs only. It may be that these typologies are better able to reflect on this than those who were discharged negatively or due to clinic closure. Once again it is not clear if this is a cause or effect/positive reinforcement relationship. Health and harm reduction as indicators of recovery were cited by positive and negative discharges and one long-term IOT. Clinic closures did not cite this aspect of recovery. Employment and financial stability were cited by positive dischargers and long-term IOTs. Whilst abstinence was conceived as effective recovery for all typologies, all but the clinic closures cited cessation of use of illicit opiates as how they conceived recovery. Additionally, all typologies conceived recovery as ongoing maintenance treatment. Only positive dischargers felt that ongoing support was part of what constituted recovery. Recovering self-esteem as part of psychological recovery was cited by both positive and negative dischargers, and psychological

therapy was mentioned by positive dischargers only. Health problems, either past or current, applied to both positive and negative dischargers, and clinic closures, however not long-term IOTs. Current health problems were all cited by positive dischargers, perhaps reflecting the need for ongoing support (even when abstinent from heroin).

5.1.6. 'Current situation and goals for the future' chapter themes tabulated by typology

Table 40. ***'Current situation and goals for the future' chapter themes tabulated by typology***

Theme	Sub-theme(s)	Typologies	Typologies not included in a theme/sub-theme
The current situation	Instability and difficulties	All	
	Stability and improvements	All	
	Current drug use	All	
Goals for the future	Abstinence from illicit heroin use	All	
	Reducing illicit drug use	All	
	Subutex maintenance treatment	Positive dischargers	Long-term IOTs
		Negative discharger	Clinic closures
	Employment, work and other activities	Long-term IOTs	Negative dischargers
		Positive dischargers	Clinic closures
	Education and courses	Positive dischargers	Negative dischargers
		Long-term IOT	Clinic closures
	Artistic aspirations	Positive dischargers	Negative dischargers
		Long-term IOT	Clinic closures

Buprenorphine (subutex) as a goal for the future was cited by positive and negative dischargers only. Education or courses as a goal for the future was envisaged by positive dischargers and one long-term IOT, but not clinic closures or negative dischargers. This pattern applied to artistic aspirations as a goal for the future. A more positive discharge situation seemed to be more likely to be linked with a positive or creative aspiration.

5.2. Chapter summary

In summary, whilst the typologies were not necessarily a useful way to visually illustrate the data, and were not always valuable conceptually (for example, the fact that continued use of illicit drugs applied across all typologies does not really tell us anything useful) it was clear that certain themes were more accessible to positive dischargers and long-term IOTs - perhaps including, and due to, a greater ability to reflect and to reflect more positively on the journey - than they were for the clinic closures or negative dischargers. This is useful for IOT research, policy and practice, as well as for the wider OST policy and practice, and emphasises patient choice and autonomy over treatment trajectory, length, clinical decision-making and exit route from treatment. It perhaps lends significance to the importance of a 'satisfied' customer in drug treatment services, perhaps with a positive perception/relationship with the clinic and staff as instrumental to this. It is indicated that a forced clinic closure is detrimental to an ability to reflect, and perhaps reflect positively, on the journey to recovery. As illustrated, however, there were no themes that were only cited by negative dischargers or clinic closures. The next chapter outlines the themes in much greater detail, but also discusses the relevance and impact of the typologies in the context of the thematic findings.

Chapter 6 – Findings: Heroin Use History

Chapter introduction

This chapter provides a description of patients' personal experiences of their heroin use and treatment history pre-IOT. It is derived from retrospective qualitative research interviews with 41 Injectable Opiate Treatment (IOT) trial patients. This project was necessary in order to illustrate the context from which entrenched heroin addiction began and continued for these patients, up until they entered the IOT trial. This pre-IOT context is necessary for a full description and interpretation of the recovery journey. The findings reported here are based on the coding of qualitative transcripts and clustering of codes into themes and sub-themes (as described in the methodology chapter and in Appendix 2). Patients were asked to begin the interviews by talking about their heroin use history; these data are relevant to later aspects of recovery, and are the opening chapter to the description of patient trajectories. Quotes are referenced with a pseudonym, patient number - which can be linked to the case note review data in the appendix (appendix 4) – and typology (including discharge status; e.g., long-term IOT; positive discharge; negative discharge; clinic closure); as outlined in chapter 5 and the drug treatment group the patient was assigned to at referral to IOT: SIH; SIM; OM).

It is known that these IOT patients were those with long and entrenched heroin use histories, and who had consistently failed to benefit from conventional opiate maintenance treatment. Failure was defined through continued habitual use of illicit heroin despite a methadone maintenance programme (commonly expressed by patients as 'using on top' of methadone). It was not known why conventional treatment had consistently failed to work for this group or how and why patient heroin use histories were so extensive and entrenched. This chapter aimed to explore this, and at the time of interviewing, set the scene for the rest of the interview. It allowed connections and parallels to be drawn to later themes and chapters (including parallels to sections 'Impact of IOT' and 'Recovery'), and allowed examination of common themes in patients' transition to heroin use, addiction and treatment. This was an open-ended question – 'Can you start by talking about your heroin use history'. Patients were also prompted to speak about the transition to habitual use or addiction, and treatment, if this narrative did not ensue organically. The chapter aims to highlight both similarities and differences across patients' accounts.

Structure of the analysis

There was a clear chronological structure to patients' narratives, as directed by the topic guide. Interviews naturally followed this sequential structure and analysis and presentation follows this. Patient heroin use history was mainly grouped around six clear and prominent themes.

Table 41. ***Outline of 'Heroin use history' chapter themes and sub-themes***

Reference	Theme	Sub-theme
6.1.	Initiation and exposure	
6.1.1.		The influence of others
6.1.2.		Vulnerability, exposure and fatalism
6.2.	Continuation	
6.2.1.		Positive reinforcement or positive outcome expectancy
6.2.2.		Transition to injecting
6.2.3.		Transition to addiction
6.3.	Consequences	
6.3.1.		Loss of employment
6.3.2.		Loss of home and homelessness
6.3.3.		Loss of non-using identity
6.3.4.		Criminal justice involvement and prison
6.3.5.		Decline of attachment relationships
6.3.6.		Health problems and decline
6.4.	Protective factors and periods of abstinence	
6.5.	Use of other drugs including alcohol	
6.6.	Treatment	
6.6.1.		Transition to treatment
6.6.2.		Failings of conventional treatment

The question on heroin use history also served as an appropriate warm-up question, for the interviewer and respondent to connect and build an initial rapport of trust and openness for the ensuing discussion. In a number of cases this was a detailed section of the interview and led to a much clearer understanding of the patient's case and history.

6.1. Initiation and exposure

The heroin use history narratives began with how and why patients were initiated into heroin use.

6.1.1. The influence of others

The influence of others on initiation into heroin use was a prominent theme across the sample. Romantic relationships or peer groups had particular presence within initiation into heroin use for many of the IOT patients. This was particularly clear amongst female patients, whereby a male boyfriend or partner influenced use, though in several cases men were also influenced by female romantic partners. Romantic involvement was implicated in use, through using together and also when relationships were not going well; triggering use as a coping mechanism. Some patients also spoke about the other influences this relationship had – such as introducing the patient to the crime sub-culture and the associated criminal justice consequences. Other patients spoke about the influence of friends and peer group, and 'getting in with the wrong crowd'. Sometimes patients began their habitual use whilst in prison and continued use upon release; contextually, a peer group was alluded to in this case too.

> "*I got involved with someone who was 12 years older than me; I was 17. He was 12 years older than me; I worshipped the ground he walked on. I didn't know anything about heroin at the time but I was a very inquisitive child, so I just got involved in it that way. Nothing bad happened to me; I just got involved with him really.*" Stacy (P5); positive discharge; SIM

"*...relationship problems. I'm not very good with relationships. …I was single when I started my treatment and I was doing really well.*" Fran (P13); long-term IOT; SIM

"*I met an even worse boyfriend, and he got me involved in crime and I ended up in prison.*" Clara (P17); positive discharge; SIM

"*…that's when I started using heroin a bit more regularly. And then I got even more regularly when I carried on seeing my prison friends when I got released.*" Ellie (P22); positive discharge; SIH

Romantic and peer group influence on initiation perhaps implies either trust, the desire to impress – perhaps to the detriment of making healthy decisions and respecting/looking after one's self - or peer pressure. This may have been exacerbated by the absence of healthy or stable role models – themes which arose later on. That other people were so influential may have been indicative of patients' low self-esteem and sense of self. Complementary to this theme, and linked to recovery, peer-group was cited again later on, when patients spoke about not having friends or peer groups comprising non-users (and the association with lapse or relapse). This was likely a factor in continued use and persisting use, despite substitution treatment regimens.

"*Well, I haven't really got any friends that don't use. The nearest to people I've got that don't use are people that drink in pubs and smoke cannabis. I just don't know anyone round here that don't use anything, you know; whether it's fat women on speed, or mum's on valium, or, whatever. I don't know anybody that don't take anything.*" Luke (P18); negative discharge; OM

Linked to the influence of others was the desire for connection or community and this longing featured as the rationale for using: "*…. I think the most predominant thought in my mind was, 'Well how do I go about getting the family that I never had?'*" Harry (P8); positive discharge; SIM

Another patient, however, explained that he always took drugs alone and kept use hidden from the people around him.

"*Yeah 'cos I didn't know any addicts before I come in here. …No I've took drugs on me own.*" Ron (P27); long-term IOT; SIM

That use was kept secret was also highlighted by several other patients. This suggested a typology of those who were influenced by others and those who took heroin alone – perhaps representing both the desire to impress others and feel a sense of belonging and the desire to escape from life. Also within the exposure theme – and linked to vulnerability (the next sub-theme) was the implication of family use on initiation.

> "*My father; he has given me money and helped me out and made my brother drive me to school and all the rest of it. He brought me a lump of pot in prison, when I was in prison. He wouldn't bring heroin, but he brought me a lump of pot, which was fine. So they do understand. They do understand. Whether it does any good, when they're understanding, I'm not so sure that it's done any good. It might have made things worse. But there you go. I don't think you should take people pot in prison. Even though my dad was doing it for me.*" Oliver (P16); long-term IOT; SIH

This suggests that where family use or complicity was pertinent, the patient's family and peer group may have normalised drug taking, which in turn may have contributed to a patient's vulnerability to addiction or continued use.

> "*Well the first time I actually used it was when I was 15, I was living in Israel and my sister, my late sister; she met someone that was using it.*
>
> *…Because my sister she'd had a lot to do with the whole thing of heroin and everything. She died when she was 15 from an overdose of Valium.*" Kevin (P33); clinic closure; SIH

The narrative above also suggests that the negative and fatal consequences of drug use did not necessarily put patients off using heroin, introducing the concept of fatalism within the patients' narratives.

6.1.2. Vulnerability, exposure and fatalism

Negative life events around the time of initiation were highlighted by a number of patients. As described earlier, this illustrated a clear typology – of those who began using heroin to escape or release themselves from a difficult life or history. A difficult or chaotic childhood was a distinct narrative in some patients' accounts, and in some

cases linked to their drug use. Within the narratives were vulnerability factors such as family poverty, absent or unstable parenting and care, homelessness and disengagement with education.

> "*And I did burglaries, but not to fund my drugs - which is cranky - I did burglaries to feed my brothers because my mother was an alcoholic, she drank all the money, and her husband; he was the most awful piece of garbage you've ever come across in your life. And he used to torture my brothers, he was a vile, nasty person.*" Oliver (P16); long-term IOT; SIH

> "*Yeah, I started using when I ran away from home.*" Fran (P13); long-term IOT; SIM

Additionally, and in several cases, difficulties seemed to be accepted as a fact of life and, as such, patients did what they could to get by. A few patients spoke about feeling resigned to the lifestyle and in some cases, resigned to addiction, highlighting, again, an overall sense of fatalism.

> "*From school I was in foster care; I never had a father. I never had any direction in my life. It was just, 'Do what you want.' My mother was in prison for a lot of the time, so I grew up around – doing what I wanted. So yeah, but, at the age of sixteen I was in prison, so it's one of those things.*" Jack (P2); positive discharge; SIH

Bereavement and loss were prominent themes across the sample, particularly in terms of initiation into heroin use, why patients used – perhaps to fill the void of something that was missing; such as losing family members (either through bereavement or difficult social situations and backgrounds) or absent parents – why use continued, and why patients relapsed following a period of abstinence.

> "*One of the people I was living with was doing a party in London and jumped off a building and killed himself. Things got a bit bad after that and one day I was like walking down… 'Do you want to score a bag?', 'Yeah fuck it; go on then'. I started smoking again.*" Jacob (P4); negative discharge (other); SIM

The narrative above provides an example of the link between vulnerability and initiation, whereby loss of control occurred in the context of a difficult life event; and it was the combination of these factors that precipitated consequential habitual use. This illustrates the multi-faceted nature of factors implicated in initiation to heroin use,

which was really clear throughout. As illustrated above, for a proportion of patients, drugs seemed to be a replacement for missing connections with family.

> "*So it all coincided with the death of me mum…*
>
> *….I got three older brothers, I'm the youngest. They all inevitably left and settled down with their partners and raised families. I was left with my dad who wasn't really…he was a bit violent, an alcoholic, he suffered from schizophrenic paranoia. So that didn't help my life at the time and I just felt really lost, abandoned, didn't have absolutely no one or anyone I thought I could turn to for help or just really, really lost and confused, I suppose, looking back and that was it. It just seemed like I was on a road where I just felt like I was on a ship with no sails and that I had no control, it was just chaos from thereon in and then it just got worse and worse."* Harry (P8); positive discharge; SIM

6.2. Continuation

That patients continued to use heroin following initiation was obviously a pivotal stage in the heroin use and treatment trajectory. The fact that use was habitual, consistent and in large quantity was clear. One patient illustrated the point '*I used a lot, I used consistently*'. It was possible to unpack the factors that contributed to habitual dependence through the sub-themes that emerged from the analysis of patients' narratives.

6.2.1. Positive reinforcement or positive outcome expectancy

The perceived positive aspects of using heroin were often cited as the reason why patients continued to use heroin following initiation, and transitioned to addiction. A prominent theme was the continued chasing of the initial high.

> "*With a new heroin user, your first hit's the best hit. So you're always chasing that first hit, as you know. You've probably heard it a thousand times. You're always chasing that first hit.*" Jack (P2); positive discharge; SIH

"*That's one thing that people chase to start with. You know, that's the golden, you know, that's chasing the drug, you know, following, you know, the first high that you get.*" Elena (P37); positive discharge; SIM

Some patients also spoke of a positive first experience with heroin. In several cases the experience was interpreted with such profundity that the patient knew right away that they would develop a heroin 'problem'. As also captured in the transition to injecting and addiction sub-themes, there was a sense of feeling resigned to addiction.

"*And after a month or two, whatever, it was a long, long time, he gave me a hit. And it was the first hit I'd ever had. And I have to tell you this, I will never forget that hit as long as I live. And when they say you cannot get addicted to heroin like they seem to now, they have one hit and they're: 'I'm ill, I'm ill', no, you're not. They're not.*

….So it was the most intense thing I'd ever had, even to this day. It's more marvellous than watching your child being born. That's the only way I can describe it." Oliver (P16); long-term IOT; SIH

The end of the first paragraph of the quote illustrates an assumption of superior knowledge and judgement over other people's experiences, which was surprisingly common across the sample – particularly when evaluating other people's experiences with IOT; this will be covered and illustrated again later on. The quote also illustrates the domino effect of contributory factors to use; in this case, the influence of a peer, coupled with a positive first experience of heroin.

"*I can only describe it as like I was walking in a cloud. All of a sudden I was weightless. I had no, I suppose, no inhibitions, no worries. Some people describe it as being cold in a warm blanket being wrapped around you. Which you can imagine, what? … that's nice. I turned, I turned to my friend. After snort … I sniffed a tiny amount and forgot I had took it, and on the way home, about twenty minutes later, I turned to my friend on the bus and my words were gonna be "What's all the fuss about?" but as I started speaking my words changed to "I'm gonna have a problem with this" and that was 33 years ago. I instantly knew that … it was almost like I … it was missing from my life.*" Shane (P21); long-term IOT; SIM

"*And this come along it just suited me; it was like everything I'd ever want.*" Lee (P36); long-term IOT; SIH

"*Once you do it once, it's like, wow, do you know what I mean? The feeling's just like nothing else.*" Patrick (P39); long-term IOT; OM

In the context of difficult histories, absent parents, bereavement, the normalising of drug use amongst peers, and peer or partner influence on use, the overall sense was that heroin provided something that patients perceived had been missing from their lives.

6.2.2. Transition to injecting

There was a distinct narrative around the transition to injected heroin use – i.e., from smoking heroin or other drug use. Increased tolerance was a factor in injecting practices – patients explained that once they started injecting they had to maintain this route of administration to receive the desired level of intoxication or high, i.e., tolerance to the effect of the drug increased. The bioavailability of a drug is the degree and rate at which the drug is absorbed into the system or made available at the site of physiological activity. By definition, when a drug is administered intravenously, its bioavailability is 100%. In the case of heroin effects will be felt more quickly and apparently, and with repeated exposure to the intravenous method, the higher the level of tolerance will become. Patients also justified that less went further through the injected route of administration – increasing motivation to inject, and for it to later become habitual. In other interviews patients spoke about particularly memorable and positive first experiences with heroin; however others still, stated that it was simply exposure to the intravenous route of administration, availability (or lack thereof, e.g., in the case of smoked heroin), and that it went further, that they persisted with injecting. Often it was a combination of these factors that contributed to the transition to injecting.

"*I smoked it on the tin foil for a week and started injecting and basically I never stopped because I tried to go back to smoking it but I had to smoke a lot more than I would if I was injecting it.*" Nicholas (P14); positive discharge; SIH

"*I couldn't get hold of any gear from my normal dealers; I went into [market name] Market and met a guy there. And he bought some gear and he was –*

like a homeless injector, so I took him back to my place but the gear that we'd got wasn't smokable and I was in such desperate, it was my second day into withdrawal so it was quite bad. So I just had an injection, I thought I'll just have an injection because that was the only way. …I kind of just started doing it as a habit from there, rather than smoking. And, as well, because the gear I was getting at the time, like I say, wasn't smokable." Andy (P23); positive discharge; OM

"*I came out* [of prison] *and I found it easy to get heroin on the streets; tenner bags. I started smoking it at first because obviously you weren't… You know, needles and stuff and that in the jails, it wasn't a good thing to do and in fact I didn't even see any needles, but silver foil and stuff, you would get off the wrappers, and when I came out I started injecting heroin.*" Wayne (P30); clinic closure; SIM

6.2.3. Transition to addiction

A number of patients recalled that their heroin use escalated very quickly and that they had to start using larger amounts of heroin to achieve the desired effect (i.e., tolerance developed quickly). The transition to addiction was often characterised by the transition to habitual use, and the transition to the injected route of administration. That use was consistent, in large quantity, long-term and habitual was particularly clear. Some patients explained that they became habitually dependent on heroin almost as soon as they started using it.

"*I found it lasted longer than the smoking, I kind of just started doing it as a habit from there, rather than smoking.*" Andy (P23); positive discharge; OM

"*And for three months I was, was taking it every day.*" Shane (P21); long-term IOT; SIM

"*My heroin use began in about the late '90s. My heroin use, kind of, like, became problematic almost immediately.*" Jason (P26); negative discharge; OM

6.3. Consequences

The consequences of illicit heroin use formed a significant part of the discussion at various stages of the interviews, and was a particularly prominent sub-theme within heroin use history. Loss and decline were overall threads within these discussions; for example, loss of employment, loss of a home, loss of a previous career, loss of educational opportunities, loss of safety, loss of freedom, loss of identity, financial loss, health decline, and loss or decline of family and attachment relationships.

6.3.1. Loss of employment

Patients felt that job loss in the context of their addiction beginning to take over their lives was particularly pertinent. Patients also spoke about other losses, such as the loss of a home, leading to homelessness. Being unable to perform in vocational roles due to the impact of drug use was often the cause of job loss; obtaining and taking heroin then became the sole focus of patients' lives, perhaps to fill that increasing and ever apparent sense of loss. One patient held the perspective that the negative cycle of addiction begins at the point that users lose their jobs, and this idea was reinforced through other narratives. This is likely a particular dimension of loss of the non-drug using identity, whereby prior to this point patients perceived that their drug use was at the level of acceptable social functioning.

> "*Then I'd lost my job, I'd lost my job in* [inner London district] *but I went away for a few days and came back a day late and they decided that I wasn't reliable enough which I wasn't, because I was terrible, I'd come in late and I'd often come in late and take days off when I couldn't go in, things like that, because I was too ill, just withdrawals or feeling really bad. So I lost that job and just went to sign on and ended up staying on forever.*" Andy (P23); positive discharge; OM

> "*I got myself in a complete and utter mess and then I lost my last job and I…so that had been about ten or twelve years straight that I'd been doing that and then I lost my last job and I'd been sleeping in the work's van.*" Ron (P27); long-term IOT; SIM

"*And, as I say, we were homeless, we were penniless, we didn't know what to do, you know, we were on benefits. I lost my job, he lost his job, and everything like precipitated from that. And that went on for a few years.*" Elena (P37); positive discharge; SIM

It was clear that amongst several patients, awareness of their addiction began at the point that work and finance were severely impacted. This again suggested the perception that if one is able to perform at the level of socially acceptable functioning then addiction is not yet perceived to be a significant problem.

"*But you don't become an addict until you lose your job. It's only when you ain't got no money that you realise you're an addict. When you've got money you don't … if you can afford it you don't really realise how much trouble you're in, you know.*" Cheryl (P40); positive discharge; SIM

Some patients lost professional careers, and in several cases, careers in a caring profession, perhaps further undermining (and replacing) the self-identity that such careers may have previously provided.

"*Prior to that I had a successful job, a very good job, but I met the wrong crowd and I started to use heroin.*" Clara (P7); negative discharge (other); SIM

Clara (P7 above) was a former nurse. Here the impact of simultaneous contributory factors are again illustrated.

"*You'll never believe it. I was a drugs worker… I was working in a drugs agency like this.*" Cheryl (P40); positive discharge; SIM

6.3.2. Loss of home and homelessness

Loss of home and homelessness was common; this was both a symptom and cause of instability and chaos, and the transient nature of patients' housing status was emphasised.

"*I've moved from homeless centre to homeless centre.*" Clara (P7); negative discharge (other); SIM

"*I was homeless and I went into, like, a B&B. I was there for, I think, three or four months, but each time you've gotta renew your agreement, so they evict*

you – this is how chaotic things were – from the B&B, they evicted me and packed all my stuff up, and I couldn't even get in; they'd locked the door. I had to go back down to the council the next day and say, 'Well, they're not letting me in. They said that I've been evicted.' So, one of the other tenants let me sleep on their floor, you know, overnight." Fran (P13); long-term IOT; SIM

"*At that time I was in a hostel. I had been homeless. I had been sleeping rough, and I was referred into – it's just round the corner from here – [name of street] Street. It's like a temporary hostel, from where they allocate you into a more permanent place.*" Pam (P19); positive discharge; SIH

6.3.3. Loss of non-using identity

Perhaps already implicitly implied through loss of career and employment, patients explicitly cited the loss of their (non-using) identity, and relatedly, the impact of heroin use on their ambitions (for example, Cheryl, P40) and education (for example, Tom, P9). It was clear that acquiring and using heroin became the sole reason for existence. Embroiled within this was a move towards involvement in crime, arguably a lifestyle which serves to further emphasise the loss of the non-using identity (illustrated again in the next section).

"*That's the thing that when you start here* [in IOT]*, like I remember there were things about my past and about my life that I had completely forgotten, totally forgotten, and my sense of self was only a junkie, and I didn't see anything else, and a busker, I wouldn't even call myself a violinist, it was, 'I'm a busker and a drug addict'.*" Ellie (P22); positive discharge; SIH

"*And I know it might sound silly but, yeah, not having done that for so long, living the life which just passes you by and you're not really living, it's just an existence when you're using, you're not interacting in no way, you're not socialising.*" Harry (P8); positive discharge; SIM

Mentions of prostitution (for example, Serina, P6 and Fran P13) further highlighted loss of freedom and identity, as well as a threat to personal safety. The threat to personal safety was also emphasised through a number of reports of adverse events and chaos as a consequence of using heroin. Financial decline was also highlighted, which again denotes threat to the non-using identity, personal safety and freedom.

6.3.4. Criminal justice involvement and prison

A significant proportion of the sample spoke about involvement in criminal activities and a large number spoke about time spent in prison; loss of freedom. This led to a repetitive cycle of chaos and instability, and again linked to the absence of non-using aspects of patients' identities. Patients appeared to speak openly about their involvement in criminal activities. One patient felt that by committing, and being punished for, crime, they were finally being noticed and recognised. A number of patients spoke about committing acquisitive crime, and one recalled his lack of regard for the impact this had on the victims of crimes committed; the acquisition of funds for drugs being the priority. In contrast this theme was starkly polarised by a group of patients who spoke of a strong unwillingness to commit crime or acquisitive crime, on moral or ethical grounds, and which will also be illustrated.

> "*I started getting into crime. As well as funding my habit, it was also almost like I was rebelling, it was like I was trying to blame someone for all that was going on in my life, so I ended up getting in trouble. It was almost like I think I wanted to because, like, I was being recognised, I was being noticed, I was getting arrested and…does that make sense?*" Scott (P35); long-term IOT; OM

> "*I'm not going to run round shoplifting to get money. I'd rather be involved in somewhat more heavier things and one advantage I do have is coming from* [name of British city] *where the heroin is generally half the price of the rest of the country, or it certainly was when I first came down to* [British city]*, and by moving amounts of drugs around it's quite easy to make sums of money, and I did a few dodgy things I don't really want to go into. But yes, I did used to commit crime, but I've never spent a day in jail, so it sort of sounds like I'm bigging myself up, but I never got caught. That's the basics of it; I never got caught.*" Tom (P9); positive discharge; SIH

A strong underlying theme for one patient was the loss of the moral compass, with retrospective regret and guilt about former drug taking behaviour. In the context of recovery, time away from heroin and the drug using lifestyle appeared to provide time and space for patients to reflect on past behaviour, what they wanted to change and what they wanted from their future lives. Emphasised with this, and by a number of patients, was the sense of desperation and the apparent imperative drive to acquire money for heroin at all costs.

> "*I was committing crime every single day, three or four times a day and it didn't matter what it was, and I'll be honest; it could be an old woman's bag, I'd have stolen her purse, it didn't matter to me where the money come from, as long as I felt better afterwards, but after I'd done it, I used to feel guilty at what I'd done and as time went on, the guilt would last a bit longer and longer and longer than when I first done it, I was ashamed, but anyway, I'd just do the same thing again. I was taking more and more and more and it got to the stage where I was £300-400 a day habit and I had to find that seven days a week and...things were getting desperate, desperate, desperate, when I mean that I mean I was doing more things where I wouldn't have done before, where I was going to, standing up behind someone at a cash point and pulling a knife out and saying you know, draw out the maximum you can draw, all things like that, but as I say, that if I could see everybody who I'd done it to, I'd tell them how sorry I was and I genuinely would mean it, because how did I know how I affected them, you know, it's like he might never have went to a cash point again, you know, but basically, it sorted my problem out, so who gives a damn about anybody else's problems.*" Nicholas (P14); positive discharge; SIH

Some patients had spent time in prison; whilst for some this was a period of decreased use or abstinence, for others it was a place where use continued and even began. Several patients explained that they began heroin use in prison because they previously used cannabis, however cannabis would remain in their system for longer, and thus detectable through in-prison regular drug screening, whereas heroin left their system much more quickly.

> "*So a lot of people decided to use heroin rather than cannabis because cannabis stayed in your system for 28 days whereas heroin stayed in your system for four, five days.*" Wayne (P30); clinic closure; SIM

Prison was also a time where some patients were first introduced to methadone treatment; of particular relevance is the fact that this treatment may have been forced upon patients in this setting.

> "*I got out of prison 2000, that's the first time I ever went on methadone. I always avoided methadone.*" Kevin (P33); clinic closure; SIH

With prison as the context to relapse, one patient illustrated that one of the triggers was the lack of structure to return to upon release. This may have undermined any

motivation to attempt abstinence. For others there was no intention of avoiding returning to prison; as before, it became an accepted way of life (illustrating the sense of fatalism again).

> "*A lot of prison; a lot of institutions; a lot of moving about the country.*" Charlie (P3); positive discharge; SIH

> "*Yeah so it was in prison, coming out, straight back at the same thing.*
>
> *…back in prison, back out and I think it was also not having any structure to come out to.*" Scott (P35); long-term IOT; OM

> "*And then prison come and then people were saying, it's a deterrent, but it wasn't a deterrent, basically I was in there getting an MOT...come out of there, fully better, straight back on the drugs again. I was phoning the dealers before I'd left the prison, you know.*" Nicholas (P14); positive discharge; SIH

The group of patients who spoke of a strong unwillingness to commit crime to fund their habit, cited moral dissonance with this way of life. This moral reasoning was sometimes the fuel behind patients initially accessing treatment, introducing and cross-cutting the transition to treatment, in some cases.

> *"I've never been a shoplifter or thief or anything like that. Never been to prison."* Cheryl (P40); positive discharge; SIM

> "*And I was brought up morally that it wasn't really the done thing to thieve, you know, I didn't really like thieving, and I used to think at one time, no one's got a drug problem, but everyone's just got a financial problem.*" Luke (P18); negative discharge; OM

> "*I had two choices, try treatment or start thieving and I weren't willing to thieve to pay for drugs because it's bad enough taking drugs anyway but thieving to get the money to take the drugs and then spend half your time inside, I thought, you know what, I'm stupid enough as it is; that is just pathetic.*" Ron (P27); long-term IOT; SIM

Once again the above indicates an underlying theme of judgement of those engaging in different lifestyle choices (i.e., criminal activities), perhaps as a way of creating distance between one's own sense of self and the stereotyped perception of the criminal heroin user. This was also emphasised during patients' time in the IOT clinics

– the judging of other patients' behaviours and trajectories – referenced later on (in chapter eight: experience of IOT).

6.3.5. Decline of attachment relationships

Family or relationship breakdown and isolation was commonly cited, both as a consequence of, and implicated in, heroin use. Some patients alluded to the fact that they had not been able to have children because of their heroin use and associated lifestyle – and others talked about losing parental responsibility entirely, or at best, contact with children during this period. One patient illustrates the impact of his heroin use on his marriage.

> "*The most traumatic stuff for me has been around my kids being taken into care.*" Pam (P19); positive discharge; SIH

> "*No, I'll tell you how powerful drugs are...my wife says to me 'Either the drugs or me'...I chose the drugs. …We divorced.*" Nicholas (P14); positive discharge; SIH

Patients clearly suffered great loss as a consequence of their addiction and it was evident that the more patients lost, the more entrenched their addiction became, and vice versa.

6.3.6. Health: Problems and decline

Health problems at IOT's inception were common amongst patients, in particular, those illnesses where patients' drug use was implicated. This was something that, in many cases, radically improved for patients – as captured in later sections of the interviews (and later chapters) – as a consequence of being in injectable treatment, and the holistic nature of the support this offered. Impact was a strong meta-theme across the dataset and the health sub-theme evidences this particularly; health was negatively impacted by heroin use and later positively impacted by injectable treatment. This was an interesting and useful finding, particularly as quantitative health questionnaires (for example, the SF36 quality of life scale) yielded no statistically significant changes over time (see chapter four; a quantitative description

of outcomes following longitudinal IOT). Some patients highlighted that the effects of illnesses and injuries caused by habitual use were still apparent, in the present day.

> "*My health's not very good, as in I've contracted two viruses through sharing needles and sharing works. Sharing needles and sharing works is the same thing. As a result of those viruses I've had offshoot illnesses. I just came out of hospital yesterday, as a result of an exacerbation of one of those illnesses.*" Clara (P7); negative discharge (other); SIM

> "*And like I say, I was going to the doctors quite often and I ended up getting a thrombosis of the veins in my legs, so I had to stop. And another thing, I could hardly walk because… I mean, now I can, but at the time I was using a stick and that, and some days I just couldn't get to the* [Name of treatment centre] *because I was in that much pain with the abscesses and stuff.*" Wayne (P30); clinic closure; SIM

6.4. Protective factors and periods of abstinence

A number of patients highlighted periods of abstinence during their heroin use history.

> "*So anyway, for about six or seven years, never even thought about it.*" Elena (P37); positive discharge; SIM

A number of patients spoke about factors which initially, or at times, protected them from the throes of their addiction. Eight patients spoke about initial sporadic use (for example, Elena, P37 and Josh, P41) and being careful with levels of use to begin with (for example, Shane, 21 and Andy, 23). Patients also spoke about access problems affecting how much heroin they took, at first feeling sick, during initiation to heroin use, and a long period of time between first use and the second time/subsequent use. Several patients described the impact that the negative connotation associated with heroin use had on them (for example, Scott, P35, Harry, P8 and Andy, P23) and their initial caution. Other protective factors included family support, pregnancy, or the presence of dependents or a non-using partner, detoxification and rehabilitation programmes and maintained employment. Some patients spoke about prioritising safe injecting practices and not engaging in criminal activities. Again peer group was sometimes implicated in the return to heroin use.

"*And so I gave up the heroin and didn't touch it again at all for four or five years, or so. And then in 1972 or '73 I think it was, I can't quite remember when, I got in to trouble, ended up in Amsterdam, living in Amsterdam, and it was a seaman I knew, and it doesn't matter how I knew him or anything, and he introduced me into the world of drugs on the continent. That was completely different in terms of heroin.*" Oliver (P16); long-term IOT; SIH

This quote also links back to the 'positive reinforcement' sub-theme, whereby – along with peer influence - more potent heroin motivated the patient to use again (and illustrated again are the multi-dimensional nature of triggers). This patients also alludes to difficulties in his life at this time – '*I got in to trouble*' – which may have been another contributory factor. Several patients mentioned children as a protective factor – either the fact that they were pregnant or the presence of children in their lives. This sub-theme appeared later on, either in the context of the injectable stage of their treatment or at the time of interview, as motivation to maintain the level of stability that had been achieved.

"*I mean I had a couple of months of clean time a few times, but never longer than a couple of months. Then I had a couple of, about two years, while I was on a methadone script, that I wasn't using, but then I did start using again.*

…I had my daughter around that time so, obviously, it was mainly that." Pam (P19); positive discharge; SIH

Pam is reflecting on a two year period of abstinence from illicit heroin. Periods of abstinence were sometimes in the context of community or residential rehabilitation or detoxification, indicating that in the right circumstances, with the right support, patients were able to abstain.

"*It was completely detoxing. And if you got really, really ill, then obviously, like, someone would drive you to the hospital or they would like get a doctor there. Do you know what I mean? It's not as though they said "Oh you're dead. Sorry, no". But the ideal way was that; they didn't use any kind of medicines. And I was there for two years. I stayed there for two years.*" Iain (P25); positive discharge; SIM

"*I went into* [name of residential rehabilitation] *again and I managed to get funding for a place in* [English town name] *so I went to rehab in* [English town

name] *called [name] House, which was, it was really good; I lasted five months there.*" Andy (P23); positive discharge; OM

The fact that rehabilitation and detoxification was successful, whereas community methadone treatment was not, highlights the need for a holistic supportive treatment programme – i.e., an illustrative dimension of IOT's success.

6.5. Use of other drugs including alcohol

A proportion of qualitative IOT patients also consumed crack and alcohol, though a proportion did not. A few patients stated that other drugs did not lead to the desired level of intoxication that heroin provided, and another few stated that they transitioned to heroin use through use of other drugs. A small proportion of patients used cannabis, benzodiazepines and cocaine. Use of other drugs occasionally led to a curiosity about heroin – and this curiosity was a clear narrative for a few patients. There were clear typologies, with some patients with extensive other drug and alcohol histories, others who did not drink or use any other drugs at all, and others who occasionally drank alcohol or used other drugs, though purportedly not to problematic levels. Speed-balling was alluded to in several cases.

"*Now getting to this point in my life now, I know the only way for me is abstinence, because it's like everything I touch I just go to the extreme. And then after the drugs it was drink which I had a major problem with, and although I'm still drinking I don't like to use that term 'control; I've got it under control', but I'll just say I'm nowhere near as bad as I was.*" Harry (P8); positive discharge; SIM

This illustrates some reflective capacity and insight in to one's own relationship with addiction. When questioned about use of other drugs, patients sometimes illustrated the sense of identity as a heroin addict in particular.

"*Well, I've never really been into that. It was just now and again really, it wasn't – I'm more a heroin addict. I wouldn't say, really, that was a problem.*" (On crack use) Stacy (P5); positive discharge; SIM

In contrast, one patient spoke about using heroin to 'come down' from crack, and this was mentioned in the context of a peer group of other users following the same pattern of use.

> "*But, yeah, basically, being around people who were using heroin to come down off of crack, yeah, because that's what a lot of people do. Crack will be their preferred drug of choice, and heroin would be something that you use to come down off...because, with crack you come down really harshly, but when you take heroin it's, like, it's more peaceful, you know… not so chaotic and erratic.*" Jason (P26); negative discharge; OM

As discussed in the UK RIOTT paper (Strang et al., 2010), the thesis introduction (chapter two), and the quantitative work outlined in chapter four, patients significantly reduced use of heroin during the IOT trial, yet not always their use of other drugs at this time, for example crack cocaine. Contextually, use of other drugs during IOT was also explored through the qualitative interviewing. This was another cross-cutting sub-theme and is covered in more detail in later chapters.

6.6. Treatment

Narratives around treatment history, from initially accessing treatment and why patients did so at the point they did, to accounts about why methadone had failed to work for patients (as defined through continued use of illicit heroin) was a key section of the interviews. That patients still craved illicit heroin despite being on methadone programmes was the reason why they were invited to take part in the IOT trial. Research had not explored why methadone had failed to work for this group of heroin users. Narratives began with an initial transition from habitual heroin use, to accessing treatment and the subsequent (and ongoing) failure of conventional treatments, prompting patients to eventually access IOT.

6.6.1. Transition to treatment

A significant proportion of patients declared long-term methadone treatment histories, with a number of patients also mentioning that they entered treatment right at the beginning of their heroin using trajectories. Motivation for entering treatment varied, from financial – i.e., patients could no longer afford heroin (for example, Cheryl, P40),

to family encouragement (for example, Wayne P30). Narratives also included a diminishment of the enjoyment derived from heroin use, to job loss and to avoid committing crime and incarceration (for example, Wayne, P30). Some stated that they did not want to access support or treatment initially (for example Nicholas, P14 and Jason, P26) – that the need to access treatment came later on in their drug use and treatment trajectory. Patients mentioned that they were on oral methadone prior to IOT, and in a number of cases they received this treatment from the clinic where they received IOT. An appreciation of methadone's stabilising effect was also highlighted.

> "*Because...it* [heroin] *wasn't enjoyable no more. It was a necessity.*" Nicholas (P14); positive discharge; SIH

> "*I think it was more the state I would get myself in if I couldn't get hold of heroin. I'm depressed and I'm inclined to self-harm and suicide. And a few times I tried doing away with myself because I felt so bad and couldn't get nothing. So that's why I say the methadone's a life saver, because it keeps me straight.*" Rita (P29); negative discharge; SIM

6.6.2. Failings of conventional treatment

That conventional treatment had consistently failed was a key attribute of IOT patients' histories, and inclusion criteria for the RIOTT trial. Failings of conventional treatment was a prominent theme across interviews, and discussed in patients' narratives. The lack of affinity with methadone was strongly emphasised by patients and is described here, and this is a useful addition to findings from research conducted to date – it was clear that conventional treatment had not worked for this sample of opiate users, however, patient perspectives on why this was the case had not been previously explored. A negative perception of methadone was reported by the majority of patients, with a smaller proportion and/or mentioning something positive about methadone. Why traditional treatments had consistently failed for this group formed an interesting line of inquiry in its own right. This discussion developed naturally through inquiry into patients' treatment histories.

Narratives mainly focussed on methadone's failings, or negative experiences with methadone and other treatment regimens. The majority of patients spoke about methadone's inefficacy. It was interesting to hear one patient allude to the lack of the

holistic nature of methadone treatment – that methadone did not address the underlying causes of her addiction. Patients commonly spoke about the need to 'use [illicit heroin] on top' [of OST] and one patient said that he always sold his methadone prescription. The dominant narrative was that whilst methadone alleviates the symptoms of withdrawal and that without it things would have been much worse, heroin provided something that methadone did not, and patients still desired this effect.

> "*For quite a lot of years I had a private script; when I was about 18/19, a methadone script. I never really liked it. It never coped with my emotions or mental state. It just kept the illness away.*" Charlie (P3); positive discharge; SIH

Some patients expressed disenchantment with the perception that by using methadone they had two addictions.

> "*I was in a methadone clinic down the road and I was getting nowhere, I had two habits in the end.*" Jacob (P4); negative (other); SIM

> "*I was given methadone and although I did end up injecting that at the time… I mean, after a period of time. I didn't know what to do with it at first and I didn't like drinking it.*" Tom (P9); positive discharge; SIH

Patients highlighted that with methadone they felt the need to use illicit heroin 'on top' of methadone; that methadone alone did not stabilise them. The following quote is interesting because the patient highlights that her use of heroin 'on top' of methadone was something that aggravated problems that she already had in her life.

> "*I've been on that before and that's where I fucked up. It was no good. It wasn't keeping me straight. I was using on top which just made things worse.*" Fran (P13); long-term IOT; SIM

> "*Third prize, sort of, thing. Better than a poke in the eye with a sharp pencil, but that's about all.*" Elena (P37); positive discharge; SIM

Whilst some patients mentioned that they used methadone to stop feeling sick, another group of patients highlighted that they continued to feel unwell whilst using methadone.

> "*Yeah, I suppose, I mean with the methadone, it was really always, it was the least worst option, if you see what I mean. It was a compromise. During those*

whole two years I don't think there was ever a day when I really felt well, if you see what I mean, when I really felt fully able to function. I functioned to a certain extent but it was a struggle. I had to make myself, more or less." Pam (P19); positive discharge; SIH

It was clear - and is indicated in the quotes above – that patients had ambivalent feelings about methadone, whereby they felt things may have been worse without it, but the fact that it did not prevent them wanting to acquire illicit heroin meant that they also felt resentful towards it. Patients did point out that methadone did alleviate withdrawal experiences.

"*Although I wasn't sick during the day, there was something like an itch that wasn't being scratched; there was something missing. So I always ended up using. Even though I wasn't physically sick, I wasn't physically withdrawing.*" Gerry (P20); long-term IOT; SIH

"*It just stopped me…give me a security to know that I weren't going to be sick and I just carried on using, but it weren't going to stop me using, no matter.*" Ron (P27); long-term IOT; SIM

As highlighted above, ultimately patients mentioned that with methadone they felt like something was missing – they weren't achieving the high that they chased through the use of heroin, and without heroin there was the feeling again that something was missing.

"*I did try, there were lots of times when I reduced the methadone, came off the methadone, went into rehab, came out of rehab, was clean, worked, did all the normal stuff, but it always felt like there was something missing.*" Gerry (P20); long-term IOT; SIH

"*The problem with methadone is because you do not get a little rush that you get off of heroin, people tend to take something else just to get that, so they might do a bit of whizz, or quite a lot of people have a hit of whizz, because that gives them a rush you see.*" Oliver (P16); long-term IOT; SIH

Some patients felt that methadone stopped them from feeling unwell, however it did not completely eliminate cravings.

"*All it done, it stopped you being sick, but it did nothing for the cravings of wanting the feeling that heroin gave you. And so that would lead to you*

wanting to inject heroin, or take it somehow, but I'd have to inject it because smoking it didn't work anymore. When I first started taking it I'd smoke it. But methadone has some effect where it numbs the feelings of heroin. It takes some of the goodness…" Shane (P21); long-term IOT; SIM

"*The United States President, Clinton, said he was smoking but he didn't inhale. You know, he was smoking pot but he didn't inhale so what's the point and methadone is a little bit similar in the sense that, you know, yeah okay it does do the job, you know, you don't get ill, you don't withdraw, but you don't get that slightly, you know, euphoric feeling that you're always chasing when you first start taking heroin. So it's frustrating, that's why people use on top.*" Elena (P37); positive discharge; SIM

It was clear that the sense that something was missing was interwoven through a number of patient narratives. That loss was experienced in the lives of these opiate users was highlighted earlier on in their narratives, heroin filled this void, yet methadone was not an efficacious substitution. It may be that as time went on achieving the euphoria or high that heroin provided became less of a drive for patients and this will be discussed further in chapters eight and ten (Impact and Effect of IOT and Recovery). The dominant narrative was that whilst methadone alleviates the symptoms of withdrawal and that without it things would have been much worse, heroin provided something that methadone did not, and patients still desired this effect.

"*Although everyone is glad to get it, life would be terrible without it, you can go to work, you can function, but there's always something missing.*" Gerry (P20); long-term IOT; SIH

Chapter summary and discussion

Overall this chapter illustrates more comprehensively the instability and chaos that was particularly characteristic of the lives of the IOT sample. It demonstrates how heroin use began, how use continued, and became habitual and destructive. This illustrates the entrenched nature of the heroin dependence of this sample. There were a number of factors that led to initiation into, and maintenance of, habitual heroin use, with these factors feeding in to each other and the overall cycle of habitual dependence. Significant negative life events, family breakdown and the influence of a peer group, or influential individual, were dominant themes across the sample. Some patients used other drugs, and sometimes this was implicated in transition to heroin, either as a natural progression from habitual drug use or by using one drug to alleviate the negative effects of another. From here patients had distinct narratives around the transition to injecting, habitual use, and then treatment. Again the influence of others was a factor here, along with an increased tolerance; requiring more of the drug to achieve the desired effects of the drug.

Once dependence was established the impact of the addiction was strongly experienced – through loss in other elements of patients' lives; such as the loss of a home, loss of a job, involvement in crime and the criminal justice system. Alongside this, conventional treatment failed for patients and the desire for the high that heroin provided was still sought. Positive experiences (including initial experiences) with heroin and the desire for the euphoric effect heroin provided was emphasised consistently, perhaps providing a sense of relief from negative life events and the growing sense of loss. A sense of loss and a feeling of emptiness were strong overall themes in patients' accounts of their heroin use history. However, patients also reported periods of abstinence and protective factors, for example when children were conceived or born, or during periods of residential rehabilitation. This demonstrated an ability to achieve maintenance or abstinence if there was particular – and perhaps meaningful enough – motivation, and the right support was in place. Overall it was useful to have reflections on heroin use history from those at various stages of recovery – including those former entrenched, refractory users who are now completely abstinent from both heroin and maintenance treatment.

Following on from heroin and treatment history; chapter seven provides an outline of patients' experiences of being referred to IOT.

Chapter 7 – Findings: Referral to Injectable Opiate Treatment

This chapter begins the description of patients' trajectory through IOT. This examination of trajectory begins with factors and perspectives associated with referral to IOT. The chapter allows the illustration of synergy and conflict between factors and perceptions at treatment outset and at the time of interview (i.e., following longitudinal IOT) and thereby illustrates the evolving nature of the recovery journey through IOT. These analyses may provide useful information for policy on IOT practice and regimen duration, and OST treatment generally. Some sub-themes were expressed across various sections of the trajectory – such as hopes and goals, and worries and fears – these occurred at both IOT outset and following (and reflecting upon) long-term IOT.

Themes identified within the Referral to IOT chapter include: motivations (and for which sub-themes comprised: failings of conventional treatment - as also outlined in chapter five – 'free heroin'; motivated by others; desire for change; and positive expectations); expectations (including both positive expectations and - an expectation of - IOT maintenance); perceptions (again encompassing positive expectations, and also scepticism and resistance). Goals were a prominent feature of the referral to IOT process and analysis and are outlined in detail. Goals included: stability/normality; cessation or reduction of illicit use; disengagement with the drugs subculture; to improve family relationships; harm reduction; and some patients described the absence of goals at treatment outset. These sub-themes are illustrated, analysed and discussed in the context of the IOT trajectory. A timeline or trajectory was particularly pertinent in the context of IOT policy, and the unanswered question with respect to IOT treatment duration. Trajectories were often clear and sequential and the chapter aims to illustrate both the similarities and differences across patients' trajectories and perspectives. The trajectory is further illustrated through several following chapters: experience of IOT; recovery; current situation and goals for the future.

To ascertain how patients had come to injectable treatment and the RIOTT trial, patients were asked about this; often this discussion progressed organically following discussion of patients' heroin use history and transition to treatment.

Table 42. ***Outline of 'Referral to Injectable Opiate Treatment' chapter themes and sub-themes***

Reference	Theme	Sub-theme
7.1.	Motivations	
7.1.1.		Failings of conventional treatment
7.1.2.		'Free heroin'
7.1.3.		Motivated by others
7.1.4.		Desire for change
7.1.5.		Positive expectations
7.2.	Expectations	
7.2.1.		Positive expectations
7.2.2.		IOT maintenance
7.3.	Perceptions	
7.3.1.		Positive expectations
7.3.2.		Scepticism and resistance
7.4.	Goals	
7.4.1.		Stability and normality
7.4.2.		Cessation or reduction of illicit drug use
7.4.3.		Disengagement with the drugs subculture
7.4.4.		Improve family relationships
7.4.5.		Harm reduction
7.4.6.		The absence of goals at treatment outset

Referral to Injectable Opiate Treatment

This chapter describes patients' experiences and perceptions of their referral to IOT. This encompasses how patients first heard about IOT, who they heard it from, their initial perceptions of IOT, and their motivations and goals.

A description of the Injectable Opiate Treatment referral process

To provide context to the account of referral to IOT as described by patients, the referral process, as outlined in Strang et al. (2010) is first described. Chronic heroin addicts (aged 18–65 years) receiving conventional oral maintenance treatment (for at least six months) were eligible for the RIOTT study if they were continuing to inject illicit heroin regularly (more than 50% of days in the preceding three months). In practice the discussions were only initiated with individuals with extensive history of repeated failure to benefit properly from treatment (John Strang, personal communication, January 2016). Patients were enrolled from the local catchment areas of supervised injecting clinics in south London, Darlington, and Brighton. Patients were enrolled and screened for eligibility by the doctor or lead nurse at the study site, and patient eligibility was double-checked by a research worker. Patients provided written informed consent after they were screened for eligibility and before randomisation. The following chapter describes patients' experiences and perceptions of encountering and beginning IOT.

Motivations, expectations, perceptions and goals

Analysis of the results found that the Referral to IOT data could be divided into four sections: motivations; perceptions; expectations and goals.

Patients' motivations involved several meta-narratives which were based on both past and present experiences and situations, and perceptions appeared to be both internally and externally driven. Motivations stemming from past experiences included the fact that conventional treatment had historically failed; and motivations stemming

from present experiences included an explicit and strongly expressed desire to change the current situation.

7.1. Motivations

By way of context, and by definition, patients in the qualitative study (and the UK IOT trial) were those who were all in conventional opiate treatment (i.e., usually oral methadone) at the time of referral to IOT.

7.1.1. Failings of conventional treatment

A number of patients highlighted failings of conventional treatment in their narrative around referral to IOT. Expressed within this was a sense of desperation with their current situation with a parallel expectation of great success with IOT. Reaching the end of the line with the lifestyle and difficulties requisite for acquiring and taking heroin, along with despondency about conventional treatment and a strong sense of hope around effectiveness and outcome of IOT sometimes appeared to be the springboard from which IOT patients were able to embrace IOT and later make changes. Failings of conventional treatment was expressed by the entire sample encompassing all typologies; including those who were retained in long-term IOT, those who were subject to clinic closure, positive dischargers and those who were negatively discharged (as defined in the typology chapter).

> "*Well, I just thought… I'd tried everything else that had been offered, because I can't cope with detox.*" - Richard (P34), negative discharge; SIM

> "*I was down in the queue, in the queue with all of these hundreds of people waiting to get their methadone down at* [service name] *or whatever it's called, and this geezer; big lump of meat, decided that he wanted to get in front and so we started arguing, so I pointed out to him that it didn't matter what he was going to do he'd still have no bollocks left after I'd cut them off, and Stephen pulled me to one side and said 'Listen, we've got this treatment, how do you fancy doing it?' And I looked at all these people, and I thought do I really want to suffer this every day? No I don't. And I don't care what it had been, what it*

would have been, I didn't care, just get me out of there. And that was how it came to be." - Oliver (P16), long-term IOT; SIH

The above quote indicates desperation for change without fully knowing the detail of what was involved; simply the opportunity and – perhaps hope - for a change to the current situation appeared to be a sufficient motivator.

"*I told you it was chaotic and there was nothing, it was like a shining light, there was nothing apart from this, there was nothing on the horizons.*" - Lee (P36), long-term IOT; SIH

In the case of the above patients, IOT was still being received at the time of interview. A number of patients expressed that prior to IOT they were in a desperate state and that nothing currently available would or could help them. From a number of perspectives, IOT appeared to provide patients with the sense that finally their needs were being understood and addressed.

"*When I found out what it was, I thought 'Ah, the government is finally going to treat an illness like it is an illness.'*" - Oliver (P16), long-term IOT; SIH

7.1.2. Free heroin

Across the sample a proportion of patients explained that motivation stemmed from the fact that by entering IOT they would have access to 'free heroin'; but, without the chaos associated with sourcing and acquiring illicit drugs. This was expressed by those with both positive and negative discharge statuses and – at the time of the interview - long-term IOTs; and by those originally allocated to both SIM and SIH. 'Free heroin' as a motivator was not indicated by the small sample of clinic closures.

"*Greed. So, I was using, it was more drugs, so it was just a way of knowing I wasn't gonna wake up sick, and I had injectables, that was my mentality at the time, you know what I mean? It was just a street drug mentality. I was in a hostel. I was using as much as I could get my hands on, and this was just a little top up…No, it was just more drugs, to be brutally honest with you.*" - Charlie (P3), positive discharge; SIH

Across the sample the baseline situation was illustratively chaotic, and patients expressed difficulty with disentangling themselves from this chaos. At this stage

patients may not have had any reflective awareness of recovery, or motivation for change – both factors which were illustrated within patients' narratives on recovery, and will be illustrated thematically and contextually in later sections. The idea that some patients did not have reflective awareness for their recovery at this stage was further corroborated by the assertion that the patient perceived that he was still in a 'street drug mentality' - as illustrated above.

> "*Yes, it worked really quite well, but I was selling Big Issues at the time to fund my heroin use and …when I didn't have to sell Big Issues to fund my heroin use that was quite nice.*" - Sammy (P11), long-term IOT; SIM

Patients illustrated that their situation was made a little easier through IOT. That their main goal was to gain access to 'free heroin' was illustrated by a number of patients in the context of there being three treatment conditions, and as summarised by one patient 'A one in three chance' of receiving heroin. Subsequent analysis, quotes and case note reviews illustrate how this mentality progressed over time.

> "*It was still a trial then, so my main concern is whether I'd be allocated to the heroin group or not... Mainly, the question was, 'Do I get heroin or will I be allocated to one of the other groups?'*" - Pam (P19), positive discharge; SIH

The overall contextual relevance is that, later on, some patients highlighted that as they progressed through IOT, this motivation changed; that the motivation for recovery and abstinence was preceded by an initial attraction to 'free heroin'. It was useful to gauge perceptions at treatment outset in this context. Similarly, some patients highlighted that initially they did not have any goals; that goals developed over time, following an episode of stability, and as a consequence of being in IOT. That goals evolved over time will be illustrated again later on (in chapter nine: Impact of IOT) as it was a key overall theme. The evolving nature of goals was highlighted by all typologies: positive and negative dischargers; clinic closures and those in long-term IOT.

> "*Not at that time, because I was still in an environment that wasn't conducive to positivity; do you get what I mean? It was only when I moved out of that environment, and I, kind of, was in my own environment, thinking, 'Well, this is not what I want no more - using.' So it was only then that I, kind of, come here and, kind of, took it seriously, what I was gonna do. Then I started coming down and then, like, looking to the future.*" - Charlie (P3); positive discharge; SIH

Leading on from this – and covered in further detail in the goals theme - was the illustration that whilst goals may not have been made by every patient at treatment outset; being in IOT over time was conducive to the development of goals and engaging with the prospect of recovery. The above patient illustrates the need for a period of adjustment and reflective space for personal recovery and goals.

> "*I just thought 'Oh I'm not that lucky, I'm not going to get the morphine',* [patient is referring to diamorphine] *like. That's as far as I thought it out really. Yeah, no that was my goal; to be on diamorphine. At the time. Then I went up and thought this was great and then I thought later on that, you know, well I ain't going to do this for the rest of my life. So, you know. I sort of saw it, or hoped it was, you know, something that, you know, I could use, you know, to come off of like heroin. That was the goal eventually.*" - Josh (P41), long-term IOT; SIH

This quote illustrated the shift; from initially being motivated by 'free heroin', to the aspiration that IOT would facilitate total abstinence; Josh (P41) remained in SIH for a number of years - up until the point of interview. Overall participants were significantly motivated by the prospect of receiving medicinal heroin. This supports the quantitative indication from chapter four, that participants were very motivated by the promise of SIH, to both enter the trial, and remain in their assigned treatment condition until they reached the point where they could change to SIH.

7.1.3. Motivated by others

As indicated above, there was a very personal and individual narrative around making changes on the basis of repeated negative experiences, as a consequence of, and the chaos associated with, a long-term heroin addiction. An additional factor for a large proportion of the qualitative sample was the influence of another person on the decision to enter IOT. Influential individuals included other IOT patients – for example, seeing how well an associate, friend or partner already in IOT was doing – other treatment services, keyworkers in other services, and staff at the IOT clinic itself – for example, in cases where patients were receiving oral methadone treatment in the same clinic. Significant others as a motivating factor was expressed by patients across all typologies.

> "*Well it was like a new thing, everyone was talking about it and a close friend of mine; an ex-partner, was on it and she was recommending it to me…*" - Harry (P8), positive discharge; SIM

Once again, the fact that the treatment was something new is also highlighted in the context of significant others.

> "*There was a needle exchange plan that used to come on a Sunday. It was run by* [service name] *at that time. And I went out to use the needle exchange, and I got talking to one of the guys there, and he was saying to me about this RIOTT. I mean, I had heard about it. I'd, sort of, heard rumours and, oh, they give you £20 vouchers, and that was, like, that was the most important thing about it. But, yeah, he was, sort of, asking me questions about my, sort of, using and how long, and what treatment I'd been on, et cetera. And he was saying, 'Oh, it sounds, like,' you know, 'you'd be an ideal candidate,' were his words, and he took my mobile number and he said he'd get them to give me a call. And, yeah, someone contacted me and I went in for an assessment.*" - Pam (P19), positive discharge; SIH

In some cases patients first heard about IOT through seeing somebody they knew achieve success with IOT – and this had often been perceived as both surprising and inspiring.

> "*I couldn't believe that Andy* [patient's partner and also on RIOTT] *was going to get through it and he completely transformed, I've never known anybody go through a transformation like what he went through. And if it worked with Andy I knew it would work with me because I knew he'd be… addiction is more entrenched in his identity.*" - Ellie (P22), positive discharge; SIH

The fact that from the outset the patient appeared convinced that IOT would work for her may have been a significant aspect of her recovery trajectory.

7.1.4. Desire for change

In partnership with the citing of conventional treatment's failings was a strong desire for change; patients expressed that they had tried everything and had reached the

end of the line with their heroin using history – to this end, IOT appeared to provide a renewed sense of hope:

> "*I got to a stage when I was in a hostel that I just didn't enjoy using in. I didn't enjoy the situation I was in.*" - Charlie (P3), positive discharge; SIH

> "*Just all the ups and downs; getting bashed with lumps of wood; getting robbed. Just everything just seemed to come at once and it was, 'No, that's enough.'*" - Matthew (P17), negative discharge; SIM

> "*Well basically I was willing to try anything at that time and...how do you know if something is going to work unless you try it?*" - Nicholas (P14), positive discharge; SIH

More specifically patients also spoke about the desire to avoid prison, and health issues that had arisen as a consequence of injecting and entrenched addiction.

> "*It's to keep me from keep going to prison and, you know, because I was in and out like a yo-yo.*" - Fran (P13), long-term IOT; SIM

> "*What prompted me was I'd been injecting methadone for over thirty years and I had a groin sinus - which is basically a hole in your groin going straight through into the vein - and it became… I'd stopped injecting methadone for a week and I was using heroin, and where I was pushing the needle in it caused a fistula where the two veins meet, and I nearly lost the leg, so I spoke to… I was told about the RIOTT trial and I was put forward for it and accepted.*" - Tom (P9), positive discharge; SIH

The quote illustrates the collaborative nature of recruitment to the trial, which may have been new for patients – the patient outlines that he was informed of the trial, put forward for it, and then accepted a place. As well as feeling as though patients no longer wished to continue in the chaotic and unhealthy situation, some patients appeared grateful for the opportunity to enter IOT and illustrated motivation for change on this basis.

> "*They let me in and I really wanted to clean my act up.*" - Jacob (P4), negative discharge (other); SIM

That the concept of IOT offered hope may have also been linked to the earlier finding that patients finally felt listened to and that health care professionals wanted to help, following a long period of feeling that treatment was ineffective, and as such, patients'

needs were not prioritised and they were not being listened to. This narrative was also illustrated in an earlier section; on patients' accounts of methadone's failings –

> "*I'd tried every sort of treatment you can imagine, in my own way, although I found that the treatment that they offer, I'm going to use the word, I don't care, it's crap. I don't care, I'm sorry for the niceties. But it's absolute bobbins, it's absolutely bobbins, it's a waste of time and money and effort, what the government is doing I do not know, I don't care. Their aim was to treat drug addicts when really it turns out their aim is to persecute people, prolong agony, and ignore the needs of individuals. The only thing that matters with drug treatment in this country is that the government is seen to be heavy on people that use drugs. What a load of old twaddle; bobbins.*" - Oliver (P16), long-term IOT; SIH

Overall there was a strong sense that patients were finally motivated and excited about making change, and that they had reached the end of the line with the current situation. It was suggested by a few patients that users need to reach this point, of desperation or motivation, before change can take place.

> "*I'd just had enough, enough of life, prison, everything, you know; and it was time to grow up basically, it took a long time to realise but.*
>
> *…You just get fed up of doing it, the same old shit every day, stealing. You know I went away for the last time for nine months for one car stereo and it was just, I just woke up one morning and I thought 'No this is it; that is it, I've had enough', and so far it's worked.*" - Scott (P35), long-term IOT; OM
>
> "*But it's almost like my philosophy has always been that you will only stop when you really want to, you could have all the help in the world but unless you've really had enough or you've really got to want it, well that's how it was for me and I'm sure a lot of other people.*" - Harry (P8), positive discharge; SIM

Whilst IOT provided a renewed sense of hope, it appeared that many of these patients had already reached a point of motivation to make change; as a consequence of years of addiction and associated negative and difficult experiences. The desire to change or make a change was expressed across the entire sample; narratives encompassing all typologies and treatment groups.

7.1.5. Positive expectations

Linked to desire for change (and touched upon within 'Failings of conventional treatment') was a strong sense of hope, and an expectation of success with IOT. Success was conceptualised as a treatment that would be sufficiently reinforcing to alleviate the desire to use illicit heroin and thereby reduce the chaos and instability in patients' lives, as a consequence of the heroin using path. Patients had positive expectations about the effectiveness of IOT.

> "*I expected 100% success from it. I knew it was the answer to all my dreams. I put it right at the top of a pedestal.*" - Shane (P21), long-term IOT; SIM

> "*I'd heard so many good things about RIOTT, I just thought this could be my chance to kind of get some kind of order in my life yeah.*" - Andy (P23), positive discharge; OM

Both Shane (above) and Ron (below) were originally assigned to SIM treatment, and are long-term IOTs.

> "*But they told me about this trial that was going on and I said 'Well that sounds interesting' and I prayed; for the first time in about 15, 20 years, that this might give me the strength to stabilise me self.*" - Ron (P27), long-term IOT; SIM

Within patients' narratives was an expectation of effectiveness with IOT. Effectiveness was conceptualised through allusions to perceived purity and potency, the injectable nature of administration and a more favourable comparison to methadone treatment. Effectiveness was conceived as a regimen which alleviated the desire to use illicit heroin during OST.

Following referral to IOT, prominent themes included positive expectations, a sense of hope and desire for change.

7.2. Expectations

7.2.1. Positive expectations

Positive expectations are covered above in the motivations theme, and is a cross-cutting sub-theme within the expectations theme.

Linked to this was the narrative of one or two patients who specifically wished to demonstrate IOT's effectiveness. That patients knew they were in a trial evaluating the effectiveness of a treatment that they believed in, may have motivated desire for change. Patients demonstrated that they wished to perform well through IOT. This may have been a powerful force within patients' recovery journeys.

> "*I'll tell you why if you're interested. It's just that I wanted to change things and the only way you can change things is by being attractive to them, by standing out. You won't stand out if you were carrying on dabbling, and you're just one of the crowd. But if you can be the one that is clean, they might be interested.*" Oliver (P16), long-term IOT; SIH.

The quote suggests that the patient perceives an improved situation if he conforms, through cessation of use of illicit heroin. A positive expectation as a motivating factor at treatment outset was expressed by the whole sample, including all typologies and treatment groups.

7.2.2. IOT maintenance

Length of IOT treatment was an inconclusive yet topical discussion. Patients were asked for their perceptions of this, following their experience of IOT. A significant proportion of the sample expressed that they specifically had the expectation of IOT maintenance or long-term IOT at treatment outset. Some patients altered their views on this – as mentioned earlier and covered later - since goals sometimes changed over time.

> "*Although I was looking for maintenance at first but in the back of my mind I knew I could use this to get off.*" - Tom (P9), positive discharge; SIH

That this view shifted was illustrated by several patients.

> "*Well like my goals have sort of changed through my treatment. I wanted it to be maintenance and now, you know, I sort of see the impracticalities of that now.*" - Josh (P41), long-term IOT; SIH

In contrast, a number of patients held the view that IOT should be a maintenance treatment, and this view had not changed by the time of interview.

> "*The only thing I wish I could change is: I don't know what their expectations are but my expectations is that I wanted a maintenance dose. I wanted it forever until I said "I don't want it no more*". - Shane (P21), long-term IOT; SIM

The perception or hope of IOT as a maintenance treatment was an expectation across all typologies, aside from the clinic closures. There was particularly strong prominence of this theme across those in long-term IOT treatment.

7.3. Perceptions

7.3.1. Positive expectations

As previously positive expectations was a cross-cutting theme and has been outlined.

7.3.2. Scepticism and resistance

Whilst the majority of patients were excited by IOT, it was interesting to discover initial resistance to the concept of IOT from a smaller sample of patients. Whilst smaller, the theme of scepticism and resistance was indicated by patients across all typologies.

> "*And my worker here, Penelope, she kept suggesting RIOTT and I kept saying "No I'm not going to go on it, I can't see how injecting is going to stop me injecting*", *but it did.*" - Trevor (P24), negative discharge; OM

Once again, the progressive nature of the patient's perception is illustrated, and implicated – in this case through experience. Several patients cited specific fears,

such as the structure of an IOT regimen, and in particular, the requirement for every day attendance at the clinic, as the cause of their resistance. Patients feared that they would not be able to adhere to the required structure.

> "*At the beginning I wasn't totally convinced that it was really what I wanted, or that it was really – well, I wanted heroin but I wasn't really that convinced about having to go there seven days a week, twice a day, whether I'd actually manage it, and whether it would, yeah, whether I would just find it too much, simply. Initially, I was quite apprehensive about going there twice a day.*" - Pam (P19), positive discharge; SIH

That attending a clinic for a medicinal dose of heroin removed the associated lifestyle aspects of addiction was initially the source of resistance for one patient – Ellie (P22); upon hearing about IOT this patient initially perceived it as giving up, or – in her own words - the equivalent of being emasculated.

> "*It's a difficult habit to break isn't it, the whole lifestyle side of it, being able to earn the money, I mean, I think the thing that puts addicts off coming here is the, you know like the equivalent of being emasculated, you know, like, you make the money, you earn it, you get your drugs, you go home, you don't have to answer to anybody, that kind of thing. I can see why a lot of addicts think, well if you go there it's almost like you're selling out, in – you're prepared to be in the system and you're losing your, you're going there like a scrounger, you're going every day and getting it for free without putting any work in, do you know what I mean? I definitely had a sense of that; I remember the first time hearing about it I did think 'Oh well that's just giving up; that's just the most depressing thing I've ever heard of in my life', I didn't possibly conceive then that it could be a way to recover.*" - Ellie (P22); positive discharge; SIH

It was useful to discover that some patients viewed IOT unfavourably upon initially hearing about it, and that this then progressed to a strong motivation to recover. By way of illustration using a specific trajectory; in Ellie's (P22) case this was a progression away from IOT and on to slow release oral morphine (MXL). That patients had some initial resistance to IOT was expressed by patients across all typologies and both injectable treatment conditions.

Linked to fears and uncertainty, several patients spoke about fears of making goals at treatment outset, in case these fears subsequently failed. This is also a cross-cutting sub-theme in the next theme: goals. With such an entrenched, unremitting

history of heroin addiction, a number of patients did not appear to have an example of abstinence that they could envisage, perhaps undermining confidence that they could break the cycle of addiction. This was illustrated by the comments of one patient who highlighted the fact that he had not ever met anyone in successful recovery. Patients demonstrated a lack of faith in their own ability to cease use of heroin because their internal resources and confidence appeared to be low, yet they did not feel supported by the external world, with conventional treatment failures, peers with similarly entrenched addictions, and likely perceived judgement from wider culture or society. The strength of the impact of a peer group was also highlighted in the previous chapter, in the context of initiation into heroin use.

Several patients experienced ambivalence about whether to change their IOT at the point where they were able to move from their assigned treatment group (for example, SIM) to SIH, and ultimately decided to remain in their assigned treatment. This was an interesting finding and applied to those with both positive and negative discharge statuses. Examples included being satisfied with SIM - for one - with another experiencing some anxiety around injectable diamorphine due to a parent dying due to injury whilst on medicinal morphine in the past.

7.4. Goals

A large majority of patients spoke about the goals that they had made at treatment outset and these goals had clear themes. These themes are as follows.

7.4.1. Stability and normality

That patients' experience stabilised and remained stable throughout IOT was cited by a large number of patients at various stages of the interview; this will also be further outlined later on in thesis (in the recovery and goals chapter). A large number of patients directly alluded to the concepts of stability and normality. Stability was a prominent goal across the sample; interestingly though, the only typology not making reference to stability or normality were negative dischargers. Otherwise this was a prominent theme and mapped across all other typologies.

"*I made it clear from the start, I just wanted to feel comfortable… I want to just feel normal - whatever normal is - but I just wanted to feel normal...*" - Nicholas (P14), positive discharge; SIH

"*I was just seeking a normal lifestyle; I wanted away from it all.*" - Gerry (P20); long-term IOT; SIH

"*This was my big chance to sort my life out.*" - Fran (P13), long-term IOT; SIM

In addition to achieving stability, patients spoke about more specific goals that they had made. These centred around reducing or ceasing illicit use (which was reported by a large majority of qualitative patients), disengaging with the drugs sub-culture and the criminal justice system, improving health, harm reduction, improvements to family and attachment relationships, engagement with work, education and activities, and to improve housing. A commonly reported phrase was the desire to get one's life in order.

"*Well, like, getting everything sorted out: my housing, and sorting things out with my family; all my court cases; stop going to prison; stop ending up in hospital, you know, and stop ending up with all these fines, and no more shoplifting, you know, so there's a lot of things.*" - Fran (P13), long-term IOT; SIM

"*When I came here like my goals was, you know, to be stable… and, you know, to have as much morphine as I needed to like live a, what I thought would be, a normal life.*" - Josh (P41), long-term IOT; SIH

Overall patients had a large number of important goals they wished to achieve through IOT. A number of patients mentioned that they wanted to change, or to make change. Introduction to the idea of IOT may have prompted motivation for change. As also indicated, patients may have felt that their needs were being understood through the introduction of IOT.

"*I just knew the time was here; it's time to change. I just knew it was time and if I couldn't do it now I would never do it.*" - Harry (P8), positive discharge; SIM

7.4.2. Cessation and reduction of illicit drug use

A large proportion of the qualitative sample voiced the desire to cease use of illicit heroin at treatment outset, with a smaller number of patients mentioning the desire to reduce illicit use. Some patients wanted to make clear that they saw IOT as a treatment and not just as an opportunity to obtain 'free heroin'. Sometimes respondents perceived that other patients in IOT were primarily motivated by 'free heroin'. The desire to completely cease use of illicit heroin was prominent and applied thematically across all typologies.

> "*But I really wanted to get off it, I really wanted to get clean, I didn't want to, it was a free hit, do you know what I mean, I never looked at it like that like when I know some people did, get a 'free heroin' hit, go down the road spend it on crack. I didn't do that, you know.*" - Jacob (P4), negative discharge (Other); SIM

The tendency to judge other patients' experiences and trajectory arose at various points across interviews. In the case of reduction as the goal, this was sometimes followed by the reflection that this would, or had then, led to the desire to cease illicit use completely – once again indicating the importance of the space for a trajectory of recovery.

> "*Yes it was to reduce, it was definitely to reduce.*
>
> *…basically cut down as much as I could. If not with a view to stop completely, but at least to take as little as possible and that's why it's been good to switch.*" [to oral morphine tablets; MXL] - Elena (P37), positive discharge; SIM

Patients also had goals around other drug use and the implication of heroin use (and ultimately IOT) on this.

> "*I knew that once I didn't have to score heroin I wouldn't be vulnerable to crack, and that was the thing that was really harming me.*" - Shane (P21), long-term IOT; SIM

This quote introduces the perception of IOT as a harm reduction approach – a sub-theme which is outlined in more detail below.

7.4.3. Disengagement with the drugs subculture

Disengagement with the drugs sub-culture was a prominent goal and links to the above goal; to cease illicit use. In the main, narratives about disengagement with the sub-culture centred around interactions with dealers, other drug users, and the criminal justice system. A significant proportion of patients explained that, through IOT, the goal was to stop cycling in and out of prison. Others mentioned keeping the dealers at bay and others still wished to cease criminal activity; such as shoplifting in order to source money for drugs. Through ceasing engagement with these activities patients' lives became less desperate and chaotic, providing more space – physically and psychologically - for engagement with recovery.

> "*Well, I knew that I wouldn't have to go out shoplifting every day, because that's what I was doing before I had the injectables. I was out burgling. Anything to make money.*" - Wayne (P30), clinic closure, SIM

> "*So I weren't spending every waking hour making money and spending it on drugs.*" - Ron (P27), long-term IOT; SIM

Once again this theme was pertinent to patient narratives across all typologies.

7.4.4. Improve family relationships

Several patients mentioned that by stabilising through IOT they hoped to improve family and attachment relationships and fulfil familial roles – including parental roles – in ways that they would like to, and that had become fractured or unfulfilled because of dependent heroin use.

> "*Sort things out with my mother and father and stuff, because my dad doesn't talk to me. He still doesn't now. My mum and dad's separated because of all this.*" - Kevin (P33), clinic closure; SIH

> "*I just wanted to get my life back to normal. I don't even remember what it's like to have a normal life. But when I got on the morphine I got a taste of it, what it was like to be normal again, you know what I mean? I had money in my pocket, buy myself new clothes, treat my son and stuff like that. Stuff that I can't do anymore. So it was a better, positive, and that's what I wanted to do;*

I wanted to get off it and then eventually get myself a job. So I had goals." - Susie (P32), clinic closure; OM

The above quote illustrates a number of factors. The first that whilst unspecific goals were sometimes made by patients at treatment outset – for example, to 'get my life back to normal', which was a commonly reported phrase across the cohort – experiencing IOT illustrated a taste of holistic stability. This is directly highlighted by Susie, and is a theme that was illustrated across the dataset. This taste of stability – perhaps for the first time in these patients' lives (a point which is validated by findings in the 'heroin use history' chapter) – appeared to subsequently introduce an ability and motivation to make more concrete goals, and inspired longer-term engagement with recovery. The quote illustrates the evolving nature of patient goals, as they progressed through an IOT trajectory. Secondly, it illustrates that gains made during IOT were negatively affected by the disruption and cessation of IOT (most illustratively in the case of Darlington patients) – i.e., "*I had money in my pocket, buy myself new clothes, treat my son and stuff like that. Stuff that I can't do anymore.*" It also suggests the sense of an unfulfilled aspiration (perhaps because IOT ceased before patients felt ready to leave, for this region's cohort) – for example the comment, '*So I had goals*'.

The desire to improve family relationships was reported across the following typologies – long-term SIH, negative discharge and clinic closure - and all three treatment groups. This theme is outlined again in narratives on the 'Impact of IOT' – in a preceding chapter.

7.4.5. Harm reduction

A number of patients perceived IOT as a mechanism by which they could reduce the harm that they were causing to themselves through dependent intravenous drug use. Overall IOT was perceived as clean and clinical and therefore less likely to cause the harms associated with illicit injecting. Patients highlighted the damage that illicit injecting had caused them to date, and the hope that IOT would halt this trajectory of harm. Narratives centred around the physical harms caused by illicit injecting.

"*And I thought oh I might be lucky, I might be able to get like morphine then, and that, and really whack away all my problems with heroin and cocaine and*

all that, because I used to inject left and right. I've got scars all over, at the back of my neck and everything, yeah." - Iain (P25), positive discharge; SIM

"*Just really to sort of stop injecting. My long term was just to stop injecting, stop hurting myself. Because as you get older your body just does not repair itself as quick, and I don't know why but I kept getting abscesses. And I was careful, like, everything was clean all the time.*" - Cheryl (P40), positive discharge; SIM

The above quotes indicate an awareness of the dangers of illicit injecting, even when needles and equipment are not being shared, and therefore the appreciation of a clinical injecting setting. This is illustrated and discussed again in the next chapter; 'Experience of IOT'. Harm reduction was also a theme cited within the 'Impact of IOT' chapter. The harm reduction narrative was only expressed by those who had originally been assigned to SIM treatment. Relevant discharge typologies for which the harm reduction theme applied to included only long-term IOTs and positive dischargers.

7.4.6. The absence of goals at treatment outset

A number of patients spoke about their lack of goal-making at treatment outset – as highlighted earlier- and this centred around the idea that patients for whom this related to were not in a stable enough place at treatment outset to psychologically engage with the concept of goals. For some, 'free heroin' drew them to IOT, and others feared that goals would just fail and thus feared making them. This was in contrast – and has been illustrated – to those who appeared to have reached the end of the line with their heroin using trajectories, and saw IOT as a shining light at the end of a dark tunnel. It is important to represent both trajectories.

"You *cannot have any goals when you're living unhealthily, can you? You come in and you poodle in the mornings, you leave here, your head's not with it, you come in...*" - Jack (P2), positive discharge; SIH

"*When I first entered RIOTT I had no aims, I had no, I was living on the streets, I was living in a bin cupboard basically and I just like… I don't really have expectations with anything I just – didn't know what to do and where to get out of, I knew I needed help and I was just, it was one of the directions I found*

and so I headed that way, and thank God I did really." - Jacob (P4), negative discharge (Other); SIM;

Jacob is clearly thankful for IOT – Jacob was in injectable methadone treatment, and as illustrated had a negative discharge (other) discharge status, in this case due to a skin reaction to SIM. This demonstrates the usefulness of IOT for a shorter period (in this case 18 months) to interrupt the cycle of entrenched addiction and harm. The absence of goals at treatment outset applied to patients within all treatment conditions and discharge typologies.

Other goals highlighted by a smaller number of patients included the desire to save money, the desire to get a pet (commonly a pet dog – and the responsibility of this was also later alluded to in connection to motivation for maintained stability, i.e., a protective factor from relapse or lapse), to stabilise housing and to engage (or re-engage) with work, education and activities.

Chapter summary

At referral to IOT, patients described that, to date, they had tried everything they could in efforts to cease use of illicit heroin. These efforts had historically failed. Patients expressed a feeling of misery and hopelessness with their current situation, excitement about IOT and a sense of hope – that IOT was a shining light on a bleak horizon. Patients highlighted that, through IOT, their needs were finally being understood and met. From another perspective 'free heroin' was a strong initial motivator for some patients – and the fact that they would no longer feel sick. Patients were clearly able to start making wider lifestyle changes once they were receiving IOT. Indeed, some patients highlighted that as they progressed through IOT their motivation evolved; that the motivation for recovery and abstinence was eventually preceded by an initial attraction to 'free heroin'. This progression to more healthy goals added strength to the proposal that entrenched heroin users benefit from longitudinal IOT specifically, and that recovery is a trajectory.

Additionally whilst some patients illustrated that they did not have goals at treatment outset, specific goals did develop over time for these individuals. This was also the case for those who perceived IOT less favourably at treatment outset. At treatment outset, patients were also influenced by other individuals, to enter IOT. Again within this sub-theme there was a strong sense that IOT was something new and different that represented a sense of hope where previous treatment had not. That IOT was new and caught patients' attention was clear. Both professionals and personal contacts were motivating factors to patients entering IOT.

The backdrop to these external motivators appeared to be a strong internal motivation to make a change, across the sample. This appeared to arise out of a felt sense of having tried all the alternative options, as well as no longer being able to tolerate the chaos associated with illicit heroin use. Patients were motivated by wider issues such as health and criminal justice involvement and the desire to change the unhealthy cycle they were in. Alongside this was a sense of gratitude and a desire to make a change through the context of the structure and support that IOT provided. That patients were primed at treatment referral to make change added weight to the use of IOT as a second line treatment; and more specifically, the prescribing of this unique treatment to those already at this motivated stage of recovery.

Many patients viewed IOT in a positive light from the outset, and had a high expectation of success with the regimen. Here the strength of being in a trial itself is

highlighted – as is found and debated across IOT treatment of the past (outlined in the introduction) – and is illustrated clearly within patients' narratives. Patients asserted that they wished to illustrate support for IOT's effectiveness. It was likely the case that patients had the same intention when undertaking the qualitative interviews and this will be further reflected upon in the discussion, from a policy perspective. The future of IOT was a question mark at the time of interview and this was the perception held by a number of patients interviewed. It was interesting to find, however, that some patients may have refrained from using illicit heroin in order to demonstrate the effectiveness of the treatment.

Treatment timeline was discussed with two main narratives, one with individuals perceiving that IOT needed to be an ongoing maintenance treatment, and others who perceived that IOT should be time-limited. There was particular prominence of the wish for ongoing maintenance treatment amongst those in long-term IOT; it could be the case that the longer patients remained in IOT, the more anxious they became about leaving IOT. However this was not demonstrated by those with positive discharge statuses, and therefore not all IOT patients.

Whilst many patients perceived IOT favourably, and with a sense of hope, there were others who had felt resistant to the structure of IOT at treatment outset. In one case this was linked to an attachment to the identity of an illicit drug user, and in this case IOT was seen as 'selling out'. This patient later discharged positively, by means of Slow Release Oral Morphine (MXL) treatment. Resistance to IOT also revealed itself through a fear of making goals in case they failed. Whilst a number of patients were excited by the prospect of IOT at RIOTT's inception, patients commonly demonstrated low levels of internal and external resources and support and this may have undermined faith, confidence and the ability to make productive goals, until they had consistent evidence that IOT could be a way to recover. A smaller number of patients also experienced resistance at a later stage in their trajectory, and decided to remain in their assigned treatment condition, namely SIM treatment, as opposed to switching to SIH treatment following six-months of their assigned treatment.

As discussed in the introduction (and also by Uchtenhagen, 2015) an interesting finding of the RIOTT trial was the poor outcome of conventional methadone treatment for these patients, as experienced prior to enrolment onto IOT, in comparison to optimised oral methadone treatment (the control condition within the RIOTT trial). Overall it appeared that the promise of SIH gave renewed hope to patients and this sense of hope was the springboard for beginning a journey of recovery. This validates

the quantitative finding that patients were very motivated by SIH (as demonstrated in chapter four by patient retention to SIH treatment, and the prominent movement – as soon as patients were able – to SIH from other modalities, and retention to non-preferred treatment modalities until this point). As discussed later, positive psychological processes were specifically demonstrated in ongoing recovery. Internal motivations included positive expectations – perhaps connected to past failure, desire for change and a sense of hope – and external motivations included motivation by or because of significant others. Some patients had clear goals at treatment outset, and as will be illustrated later on, these goals remained constant at later stages of recovery.

Next, chapter eight outlines patient experience with IOT.

Chapter 8 – Findings: Experiences with Injectable Opiate Treatment

Following patients' referral to Injectable Opiate Treatment, this chapter provides a description of patients' experiences with IOT. The chapter outlines what patients perceived to be important elements of the treatment experience and includes aspects which involved more than just the administration of medication. Experiences divided into three superordinate themes; Components of the regimen (comprising both injectable opiate medication, and the holistic and psychosocial dimensions of treatment) and treatment duration.

Sub-themes involved in components of the regimen – medicinal and clinical - comprised the following sub-themes. The first was 'Medication experiences'. This firstly begins by outlining experiences of Supervised Injectable Heroin. Sub-themes here include: Positive experiences; Comparisons to illicit heroin; Comparisons to SIM; and Disappointments or negative aspects of SIH. Secondly, experiences of additional doses of oral methadone are outlined. Finally, experiences of Supervised Injectable Methadone are described. Sub-themes here include: Effectiveness; Comparisons to Supervised Injectable Heroin; and Negative aspects of Supervised Injectable Methadone treatment.

The second overall sub-theme within the Injectable Opiate Medication theme is: Getting the right dose. This is followed by Route of administration; and then Frequency of daily clinic attendance for supervised injecting. The final sub-theme within the Injectable Opiate Medication theme is Clinical injecting environment.

The second overall theme is Components of the regimen – Holistic and psychosocial. There are a number of sub-themes. The first is Holistic and psychosocial (this forms a specific sub-theme within its own theme); the second is Supportive environment. This theme breaks down in to four further sub-themes; Staff and environment (including and followed by negative perceptions of staff); and other patients (including and followed by negative perceptions of other patients). The next theme within Holistic and psychosocial is Gratitude. This is followed by Person-centred care and autonomy over treatment decisions. This is (linked to and) followed by Service-user involvement. Then Lack of autonomy and control over treatment decisions, and finally Individualised treatment journeys. The final theme is Treatment duration. This encompasses the following sub-themes: Ambivalent about abstinence; Desire for long-term Injectable Opiate Treatment; Patients control over treatment duration;

Short-term Injectable Opiate Treatment and Returning to Oral Methadone Treatment. The themes and sub-themes in this chapter are listed and referenced below.

Table 43. ***Outline of 'Experiences with Injectable Opiate Treatment' chapter themes and sub-themes***

Reference	Theme	Sub-theme
8.1.	Components of the regimen	
8.1.1.	Components of the regimen – Injectable Opiate Medication Experiences	
8.1.1.2.		Medication experiences
8.1.1.2.1.		Experiences with Supervised Injectable Opiate Treatment
8.1.1.2.1a.		Positive experiences
8.1.1.2.1b		Comparisons to illicit heroin
8.1.1.2.1c		Comparisons to Supervised Injectable Methadone
8.1.1.2.1d		Disappointments or negative aspects of Supervised Injectable Heroin treatment
8.1.1.2.2		Experiences with additional doses of Oral Methadone treatment
8.1.1.2.3.		Experiences with Supervised Injectable Methadone treatment
8.1.1.2.3a		Effectiveness and comparisons to Supervised Injectable Methadone
8.1.1.2.3b		Negative aspects of Supervised Injectable Methadone treatment
8.1.2.		Getting the right dose
8.1.3.		Route of administration
8.1.4.		Frequency of daily clinic attendance for supervised injecting
8.1.5.		Clinical injecting environment
8.2.	Components of the regimen – Holistic and psychosocial	
8.2.1.		Holistic and psychosocial
8.2.2.		Supportive environment
8.2.3.		Staff and keyworker
8.2.4.		Negative perceptions of staff and keyworker

8.2.5.		Positive perceptions of other patients
8.2.6.		Negative perceptions of other patients
8.2.7.		Feeling grateful
8.2.8.		Person-centred care and autonomy over treatment decisions
8.2.9.		Service-user involvement
8.2.10.		Lack of autonomy and control over treatment decisions
8.2.11.		Individualised treatment journeys
8.3.	Treatment duration	
8.3.1.		Ambivalent about abstinence
8.3.2.		Desire for long-term Injectable Opiate Treatment
8.3.3.		Patient control over treatment duration
8.3.4.		Short-term Injectable Opiate Treatment
8.3.5.		Returning to Oral Methadone treatment

8.1. Components of the regimen

Patients' accounts of their experiences of Injectable Opiate Treatment were divided by two main elements; medical or clinical aspects of receiving IOT and the holistic and psychosocial elements of the treatment programme.

8.1.1. Components of the regimen – Injectable opiate medication experiences

To provide context, specific detail about treatment received during the RIOTT trial is outlined in section 1.8.1 of the introduction. Overall, patients described experiences with the medicinal and clinical elements of the treatment.

8.1.1.2. Medication experiences

8.1.1.2.1. Experiences with Supervised Injectable Heroin

When directly asked about this treatment medication, as opposed to the overall experience of IOT, overall themes about Supervised Injectable Heroin encompassed the following sub-themes: Positive experiences; Comparisons to illicit heroin; Comparison to SIM; and Disappointments or negative experiences.

8.1.1.2.1a. Positive experiences

There were a lot of generally positive comments about SIH, with some degree of vagueness about why and how this was.

> "*And I tried it and I'll be honest with you, and I don't say this just willy nilly, it was like...something I've never had before. …but when I first done it...I went 'Jesus Christ, I've never felt like that before'.*" [VB: "Was it a good experience?"] "*It was a, I don't know how you explain what the experience*

was, but it was an experience where brown could never give me; heroin could never give me." Nicholas (P14); positive discharger; SIH

Additionally, patients explained that Supervised Injectable Heroin numbed emotional pain.

"*It made you mellow a little bit. I stopped anxiety and that, you know, because after my mam and dad died, my brother died as well, do you know what I mean? So I was left on my own really, and that battered my head, so I get a bit anxious and that now and again and that sorted it out. It was just a mellow… thing, you know? …After about twenty minutes you felt a little bit mellow.*" - Richard (P34); negative discharge; SIM

8.1.1.2.1b. Comparisons to illicit heroin

A number of patients conceptualised their views and perspectives about the Supervised Injectable Heroin treatment they received through comparisons to illicit heroin. There was often some degree of neutrality about the experience of the medication. In the case below it was perceived as better than both methadone and illicit heroin, though interestingly, not as something the patient would actively go out and buy.

"*Oh, completely different. It was two different drugs. It's a different drug; morphine and heroin are completely different; you know what I mean? One gives you a buzz. One, kind of, maintains you, but it does what it says on the box. … It wasn't nothing great; it wasn't something I'd go and buy, do you know what I mean, but it was better than methadone and it was better than using.*" - Charlie (P3); positive discharge; SIH

Overall perspectives were very mixed.

"*…even though it wasn't what I did expect, my expectations, as in it wasn't the heroin I was using on the street, it wasn't the same feeling; it wasn't….*" - Harry (P8); positive discharge; SIM

"*The fact that you're injecting it … I mean it wears off after eight hours like that, really quickly.*" [VB: Is that different to street heroin?] "*Yeah it's … street drugs wears off more gradually because it's got other things in it like sedatives*

and hypnotics and they'll bulk it out with anything." - Shane (P21); long-term SIH; SIM

Some patients outlined satisfaction with the purity of medicinal diamorphine.

"*It was as good, if not better, than street stuff. At least you knew it was clean.*" – Wayne (P30); clinic closure; SIM

8.1.1.2.1c. Comparisons to Supervised Injectable Methadone Treatment

When compared to Supervised Injectable Methadone comments were generally in favour of SIM, as outlined in detail in the SIM section (which follows).

8.1.1.2.1d. Disappointments or negative aspects of Supervised Injectable Heroin Treatment

In contrast, several patients outlined disappointment with SIH, often by virtue of the fact that SIH did not live up to their expectations, or was strange or unpleasant.

"*I found it pretty weird because I didn't know what to expect, but I felt safe because I was with professionals. I wouldn't have done so in somebody else's house. It seemed weaker to me…. Weaker than the methadone.*" Clara (P7); positive discharge; SIM

It was interesting that a number of patients explained that they would not have paid for, or taken the clinical diamorphine they received through the IOT treatment programme recreationally.

"*I thought I'll take diamorphine and stop using the street gear altogether. But never worked.*" - Euan (P38), negative discharge (other); SIM

"*Well all you kept hearing was that it was 100% heroin, and that, and you just thought oh that's going to smash you out of your head. And it wasn't; it was totally different. It's a weird feeling but you used to be able to put it in your vein but it was instant then, it was horrible, it was just all in one, the rush that was totally different from a gear buzz.*" - Scott (P35), long-term IOT; OM

Some patients highlighted non-adherence to protocol in the initial stages of treatment. For example, several patients spoke about the fact that they had previously submitted false urine samples and therefore were not adhering to the required structure of the programme at that particular time.

> "*I mean, to be perfectly honest, because of the benzos, I was not always honest, and my urine samples were not always mine...but I was, I think, reasonably discreet about it, and, I mean, probably they know that sort of stuff goes on.*" - Pam (P19), positive discharge; SIH

SIH was, nevertheless, satisfactory for the majority of patients.

8.1.1.2.2. Experiences with additional doses of oral methadone treatment

Those on SIH were prescribed additional doses of oral methadone since injectable diamorphine is not as long-acting as oral methadone treatment, and therefore patients may have suffered withdrawal before their next morning's diamorphine injection. Comments about being on oral methadone were often negative – and specifically that it was not sufficiently reinforcing to reduce the craving, desire or need for illicit heroin. Patients gave their perspective on additional doses of methadone.

> "*Methadone has a very good use but only one use, what I believe, and it's working for me, it is working for me, is that what you need to do is breakaway from the street gear completely, have a short time on your methadone, to use as little as possible, to stay well. Now you can use the 24 hour cycle now, to your advantage and not the advantage of GlaxoSmithKline, or whoever these drug dealers are, and you stay away from the street drugs, and it keeps you well.*" - Oliver (ID 16), long-term IOT; SIH

A different set of comments were elicited about the efficacy of methadone, when it was prescribed in addition to IOT, with some patients perceiving it as necessary for their recovery, and others' opinions perceiving it as unnecessary or ineffective. Patients typically came from a perspective whereby they had come to strongly dislike methadone, and perceived that it wasn't fit for purpose, however another sample saw it as absolutely necessary and - as also illustrated earlier – that life with a heroin addiction would be much worse without it.

"*It was like when they give you the methadone at the end of the night, no one needs it, no one needs it, and if people come in and say they do, I'd say, 'You're a liar,' do you know what I mean, because you don't. Everything you get here will hold you for the next day.*" - Charlie (ID 3), positive discharge; SIH

"*Whether I needed it or not. I doubt if I needed it. But I think I could probably have done without it….I think a lot of people didn't use it, you know. I know at least one person handed it back after a while. Yeah.*" - Reg (ID 12), long-term IOT, OM

"*I used to get 50ml of methadone to take home…. And then eventually I started cutting down, but then I got a bit too eager, you know, like, 'I'm cured,' sort of, thing. I was, like, 'Yeah, I'm gonna cut down 10 ml a month,' and I was doing that, and I think that's when I relapsed, because I went too quick.*" - Fran (ID 13), long-term IOT, SIM

The above quote illustrates the need for a structured and gradual reduction programme – from additional methadone doses as well as from IOT. Once again, aside from clinic closures (for reasons previously outlined) all discharge statuses were represented within the negative comments about methadone sub-theme.

8.1.1.2.3. Experiences with Supervised Injectable Methadone treatment

The two main themes from discussions about Supervised Injectable Methadone concentrated on, firstly, the effectiveness of this treatment (which was often conceptualised by means of comparison to SIH) and, secondly, negative experiences or perceptions.

8.1.1.2.3a. Effectiveness of Supervised Injectable Methadone treatment and Comparisons to Supervised Injectable Heroin treatment

Interestingly several patients spoke about the decision to remain on Supervised Injectable Methadone at the six-month point (i.e., the point at which patients could be assessed with a view to switching to SIH). This was often because patients felt the treatment was effective enough. Naturally the majority of patients within this theme were those who began on Supervised Injectable Methadone, with a much smaller number who had started in another treatment group (one OOM and one SIH) and at some point in their trajectory had switched to Supervised Injectable Methadone. The theme spanned all discharge statuses however.

> "*Yeah. I could have gone onto that* [SIH] *after six months, but I decided to stay on methadone.* [VB: Why was that?] *Because the injectable methadone, that worked for me and I used to see people really out of their nuts and gouching as soon as they'd done it and I didn't want to be going home, sitting on a bus or going anywhere and be gouching in front of people.*" - Daniella (ID 1), negative discharge (other); SIM

This is contrary to the narratives of other patients who stated that some degree of intoxication was desired and appreciated. This again indicates the importance of a treatment or recovery trajectory perspective, and how priorities changed during IOT, but at different stages for different people. At the beginning patients may have craved the effect of heroin, but the further they progressed through their journeys of recovery, the less they desired this effect, and stability became more of a priority.

> "*When I was sat in the waiting room listening to them all saying how great it was and it didn't cost you now't and you'd see them yourself off their faces. And I was very tempted to give it a try but, as I say, the doc … didn't have to persuade me very hard, he just said I was doing well as I was so I said 'Right, fine, I'll stay as I am'*". - Rita (ID 29), negative discharge; SIM

Some patients stated that it was the injectable nature of the treatment that had the biggest impact on their recovery and this applied to injectable methadone treatment also.

> "*But what the injectable methadone did for me was make me aware that I didn't have to find a vein for, I don't know, because I was still taking street*

drugs. It had a big effect on me that first six months. It got something … maybe it got the heroin, or my injecting, under control, I can't remember. But I know thinking, thinking back it was, wasn't as bad. You see it was the fact that I was injecting it, you know, psychologically … the big thing, yeah. …Don't take away the injection." - Shane (ID 21), long-term IOT; SIM

Here the significance of the injectable nature of this treatment is clearly illustrated – this element of the treatment appeared to be enough to keep some patients satisfied with SIM. Favourable comparisons were sometimes presented in the context of SIH not fully meeting patients' expectations, as well as the desire to function and achieve greater stability in other areas of the patient's life.

"*There was a point, I do remember, at a later stage in the treatment that I noticed a couple of patients were reverting back to the injectable methadone and I thought about it, I was having serious thoughts of going back on it myself because I did see how good it was, having experienced diamorphine and realising it wasn't all that it was hyped up to be or what I expected it to be and, like I say, it being once a day because I started wanting some time back to start getting into other things in society but yeah, I thought it was really good, really positive.*" - Harry (ID 8), positive discharge; SIM

8.1.1.2.3.b. Negative aspects of Supervised Injectable Methadone treatment

In equal balance to the effectiveness sub-theme were negative comments about SIM. The majority of negative comments related to physical reactions and complications caused by SIM treatment. The following quote indicates the ambivalent nature of these negative perceptions, in the context of being treated by a drug that was keeping the patient well.

"*Well I was having bad effects off it, really bad, all my skin was going hard, I couldn't get a needle into my legs no more it was just bending the needles because like I'm solid all over, there's nowhere else I could get the needle in me anymore. Had to go on to oral…. bad reaction I was getting through injecting with methadone; it was like putting poison in me, it was, but I needed it to be well, I can't function when I'm ill like and it wasn't making me well, so*

with all the bad effects I was getting off it I was still getting a benefit." - Jacob (ID 4), negative discharge (other); SIM

Once again the majority of patients were those who of course were assigned to SIM, and the theme cut across all discharge statuses in equal measure (with slightly less clinic closures, as usual, because this sample was so much smaller than those other discharge statuses).

"*Basically, the methadone was okay, but I found that it burnt out my veins very quickly. …It's very toxic.*" - Clara (ID 7); negative discharge (other); SIM

In the quote below, ambivalent feelings about SIM are clear, with the comment that whilst the patient felt that SIM 'held' him, he still had the desire to use illicit heroin, whilst on SIM, indicating that SIM was not sufficiently reinforcing to cease this urge.

"*It was holding you, doing its job, but I was, nevertheless, still using unfortunately but again that went for a lot of patients that were on it at the time.*" - Harry (ID 8), positive discharge; SIM

Once again, this quote illustrates the tendency to compare one's progress to the progress of other patients in the trial, and in this case by a process of normalising their experience. This also signifies that for some patients injectable methadone was not sufficiently reinforcing to alleviate the urge to use illicit opiates.

"*The first six months of my treatment I was on injectable methadone. …And that was my excuse to carry on with the street drugs and all that lot.*" - Shane (ID 21), long-term IOT; SIM

"*I had bad veins in those days when I first got injectables down here, I was put onto injectable methadone initially but because I was using very small surface veins the alcohol that the methadone's suspended in leaves you with sort of ulcers and blisters and things, so I went to see Doctor Smith about it and he swapped me over onto diamorphine.*" - Fay (ID 10), long-term IOT, OM

Overall, the analysis of injectable methadone treatment adds further weight to the idea of progressive recovery and stability, and illustrates its role in the context of IOT and the patient's overall journey of recovery - and notably, the divergence of views about this treatment drug.

8.1.2. Getting the right dose

Patients described the process of getting the right dose and a positive experience of this process was interpreted favourably. Patients felt that getting the right dose was a factor that contributed to cessation of use of illicit drugs. A number of patients stated that they had then subsequently chosen to reduce their dose.

> "*Yeah, definitely. They were really good. You were always asked about if you wanted to go up or you wanted to go down.*" - Stacy (ID 5), positive discharge; SIM

> "*The dosage came up to a point where I wouldn't feel the street drugs but this is a point where I don't know how much of this is going to be lost because the reason for it is because it was a trial, it's the fact that it was an optimised thingy, as long as it was safe you were able to say you wanted your dose increased. … I was able to say I want to increase my dose, it wouldn't happen overnight but the fact that option is there and it happened and I did keep increasing my dose and the point of that is that then because all the time in the meantime because you haven't got the whole life of having to survive as an addict on your six hour treadmill.*" - Ellie (ID 22), positive discharge; SIH

The patient above compares routinely provided IOT to IOT that was provided as part of a research trial (RIOTT). This was a common comparison throughout interviews and will be discussed in greater detail in the discussion chapter.

Low doses and reductions had a role in triggering lapse or relapse.

> "*I've only really started having a problem again with it* [illicit heroin] *as my dose has been reduced.*" - Sammy (P11) long-term IOT; SIM

8.1.3. Route of administration

When patients began IOT they administered their treatment injection intravenously, unless they had no available veins. As time went on intramuscular injection was encouraged. The majority of patients spoke favourably about intramuscular injecting, with a smaller number mentioning negative aspects to this route of administration. Equal numbers of patients spoke favourably about the intravenous route, as

compared to negatively; overall, preferences were mixed. Positive comments about the IV route of administration occurred across all typologies aside from the long-term IOTs, and negative comments about the IV route occurred across all typologies aside from the clinic closures. Positive comments about IM cut across all typologies aside from long-term IOTs, and negative comments about IM were by those on injectable methadone only – including all discharge statuses aside from long-term IOTs. This is perhaps expected as those in long-term IOT all moved over to SIH, with no patients (in the qualitative sample) remaining in long-term SIM.

Interestingly one patient explained that by continuing to inject intravenously he felt that he was still connected to 'using' (illicit heroin). It was interesting and encouraging that patients eventually wished to sever this connection, and suggests a desire to move away from this way of life – this is another example of progression along the treatment trajectory, and illustrates the subtle nature of factors relevant to recovery within the treatment regimen. This is an interesting contrast with the – earlier - narratives that highlighted initially finding it difficult to break away from the drugs sub-culture and to be receiving their heroin in a clinical setting, and those too, who were initially put off joining RIOTT for this reason.

> "*I was one of the only ones that was doing it intravenously, as well, because I could still get a vein, so I was still doing it intravenously. So I still, kind of, had that connection to using. That's the way I, kind of, thought and then it got to a stage where I didn't want that connection any more with using, so I started just intramuscular.*" - Charlie (ID 3), positive discharge; SIH

This aspect of recovery was further emphasised by other patients.

> "*I mean when I was using I'd cry if I couldn't get it but I got used to it and I also realised it was part of sort of getting away from injecting heroin, even though I was still putting the needle in me; it was all just different…*" - Harry (ID 8), positive discharge; SIM

One patient spoke about the difference in the type of 'hit' obtained through intramuscular injecting. The instantaneous nature of the 'hit' achieved by the intravenous method was removed through intramuscular injecting. This patient received SIM treatment only during RIOTT because he experienced some anxiety about SIH and thus decided not to change to SIH at six months.

"*Because you don't get a kind of a like that, that pain and then that satisfaction straightaway. You just get like the pain and then you sit with the pain and then after like ten, fifteen minutes or twenty minutes and you've kind of forgot about it anyway then and you feel comfortable.*" - Iain (ID 25), positive discharge; SIM

Some patients mentioned that the IV hit was too strong, and caused itching, others spoke about the fact that the level of sedation from the intravenous route of administration was too high for them. Some patients spoke favourably about the IM route of administration on the basis that the effect lasted longer.

"*Well IV comes on quick, goes away quick, but intramuscular, even subcutaneous, but intramuscular's better, it comes on slow and stays longer.*" - Trevor (ID 24), negative discharge; OM

Other patients spoke about the fact that IV injecting would leave marks on their arms, whereas IM injecting did not cause this. Overall, IM injecting was preferred, although in some cases it took a period of being in treatment for this perspective to be arrived at – again, indicating the specific relevance of a treatment – and recovery - trajectory, and perhaps again, indicating the requisite for longer-term injectable treatment for this historically hard to treat population. Longer-term treatment allows for this necessary period of adjustment.

"*And also actually I found that if anything IM was a lot better. The intravenous. Because people that was doing intravenous, okay they were getting a hit straightaway. But then, because the time limits of attendance at the clinic was twenty minutes, they had to go. So they … it would ruin their buzz; if you got one. Whereas with the intra-muscular, you know, you put it in, you get back on the bus, you do a little bit of shopping. Within an hour it comes on and by then you're at home and you're nice and relaxed and you watch Jeremy Kyle.*" - Elena (ID 37), positive discharge; SIM

The above quote signifies an ongoing desire for some degree of intoxication from the IOT dose, at least at that stage of the patient's recovery trajectory – this particular patient progressed to MXL treatment and was retained in MXL treatment at the time of interview. By way of later context this patient had also previously spoken about the benefits of being a service-user representative and feeding in to policy work, which she said gave her a sense of purpose.

8.1.4. Frequency of daily clinic attendance for supervised injecting

In a number of cases, those patients attending the injecting clinic for twice daily injections chose to reduce to once daily injections following a period of stabilisation and the relevant clinical review. When mentioned, the majority of patients preferred attending the clinic once per day as compared to twice per day. Patients cited the inability to get on with other tasks during the day and the fact that one's day would then revolve around attending the clinic as a reason for this preference. It is interesting – and encouraging – that, over time, patients came to find this burdensome, considering the long heroin use histories of this sample of people whose lives had previously primarily centred around acquiring and taking heroin. The fact that patients came to prefer fewer injections and thereby time free to engage in other tasks is a relevant and important aspect of treatment trajectory.

This contrasts to the perception of some who were initially (at referral to IOT) attracted to 'free heroin' and were unable to make goals, and demonstrates the progressive nature of the trajectory. Typologies specifically mentioning a preference for once a day injecting included a positive discharger, a negative discharger and a clinic closure, cutting across all three treatment groups. It may well be that negative dischargers and clinic closures may not have remained in the RIOTT trial long enough to experience the option of switching to once a day injecting, if they discharged at or around six months.

> "*Because I think the diamorphine is a bit much, to have two injections a day. I do think that's a bit much because your life has to revolve around that.*" - Stacy (ID 5), positive discharge; SIM

It was interesting to hear the range of experiences about SIH from patients who did not receive SIH during RIOTT, but who instead received SIM – indicating strong opinions were formed on the basis of observing other patients in SIH treatment. A negative perception of SIH, prior to having had experience with IOT also featured at treatment outset, by those who asserted negative or ambivalent feelings towards IOT – for example, the idea that accessing this treatment was 'selling out'.

Other patients spoke about the fact that diamorphine was not long-acting enough to see them through a 24-hour period. Linked to this – and commonly cited by other patients in later sections of the interview - was the desire for a take-home dose of IOT, and dissatisfaction around additional methadone doses.

"*For one reason or another they won't give you a takeaway dose, to have at night. And it only lasts a maximum of eight hours, then there's three eight hours in 24, but you only come here twice, and that's the maximum. And I only come here once. So they have to give you methadone for the times when the stuff wears off before you can come here again…. that was a bit of a knock back really because now I'm addicted to methadone still.*" - Gerry (ID 20), long-term IOT; SIH

"*I mean honest the only pain about that was going up there twice a day every day and that means Christmas, New Year. That was the only down bit, yeah. If I had the choice I'd stay on oral methadone now.* [VB: Why is that?] *I don't know, I just … probably more the fact it's going up there twice a day every day, do you know what I mean?*" - Euan (ID 38), negative discharge (other); SIM

In contrast, two patients mentioned that they did not object to attending twice per day – one explaining that they would have done anything for the treatment.

"*I didn't mind, I would have done anything, I would have walked over glass bare footed*". - Lee, (ID 36), long-term IOT; SIH

"*I found it all right. I went at half past nine in the morning and I got my first hit. I went home. Basically gouched, which is what everyone wants to do anyway, and then I went back down at half past one, got my second hit, went back home and did that.*" - Wayne (ID 30), clinic closure; SIM

The above quote implies less engagement, for the patient at that stage, with more holistic recovery, such as through work or other activities.

8.1.5. Clinical injecting environment

The majority of patients within the sample spoke favourably about the requirement for daily clinic attendance, injecting in a clinical environment, and the positive impact this had on recovery in this context. For some, this provided a sense of stability and security, which was a source of comfort.

> "*Coming into somewhere where you're used to injecting, say, outside in a public toilet, or something, and coming somewhere that's very clinical and people helping you and it's all clean. You know you're not going to overdose. It was really good. Yeah, so I think it's really helpful and I think there should be more places like it. …You feel safe. Because I'm quite panicky. I suffer from anxiety, so when you suffer from that, it's nice to feel safe.*" - Stacy (ID 5), positive discharge; SIM

> "*And it also, it takes away a lot of the – drug use was, sort of, like, it was a way of life, and it made it something a bit more clinical and matter-of-fact in general.*" - Pam (ID 19), positive discharge; SIH

The rationale in the above quote may be a pertinent factor in patients moving away from the drugs subculture whilst in IOT; a goal for a number of patients at treatment outset, and the effect of which is considered again in later chapters (as will be demonstrated). The appreciation of the need – and the stability that arose as a consequence of this requisite - for daily clinic attendance was a prominent theme expressed across the sample, including all typologies and treatment groups. Generally patients spoke favourably about the clinic and its surroundings; and a number of patients spoke of calmness and stability within and around the IOT clinic, however a number of patients expressed neutral feelings about this aspect of treatment.

> '*It was fine, it was fine. I mean there was nothing wrong with it*. - (Elena, P37), positive discharge; SIM.

In addition to this, a number of patients highlighted the fact that they grew to accept attending the clinic for injections, or even like doing so, but that initially it was difficult to get out of the routine of going to score heroin illicitly.

> "*No it was just, as I said, finding it difficult to get out the routine. Doing that every day, do you know what I mean?*" - Patrick (ID 39), long-term IOT; SIH

"*I enjoyed … I liked it. I liked going. Well I didn't to begin with but, you know, I got … as soon as you get to know everyone it's like a nice little social club.*" - Cheryl (ID 40), positive discharge; SIM

"*And I should imagine that, you know, from going from a hectic lifestyle to something like, you know, after three or four months; it was quite a challenge.*" - Josh (ID 41), long-term IOT; SIH

Commonly, patients cited positive feelings about coming to the clinic for treatment, asserting that it offered stability and routine. This also links to sub-themes in the next section where patients spoke favourably about the social side of attending the clinic, the banter with staff and patients, and in some cases friendships.

8.2. Components of the regimen - Holistic and psychosocial

8.2.1. Holistic and psychosocial

Patients appeared to be recovering various dimensions of their whole lives rather than just from their addiction and this was explicitly stated by patients in their accounts of satisfaction with treatment. Patients made general comments about the holistic nature of the treatment.

> "*In every way, I think in every aspect to do with a drug addict, it addressed a whole lifestyle, not only…*" [drug use] - Harry (ID 8), positive discharge; SIM

> "*You know, but at the end of the day, you know, as I said, you're in a clinical setting it wasn't necessarily a medical model because it was very much a holistic approach because they were looking at all aspects of your health and your situation. And they, you know, they were doing referrals to the liver clinic, to the dietician, to this, that and the other. Anyone that had any issues they were all addressed.*" - Elena (ID 37), positive discharge; SIM

The fact that the treatment was holistic, and not just 'a medical model', appeared to be instrumental to the success of IOT for patients. Patients perceived that IOT gave them a chance to take stock and start to analyse their previous experiences in a safe and stable environment.

> "*If nothing else it has benefitted me greatly in experience and opening me up to, it's like a jigsaw puzzle, if that makes sense, when your life's fragmented after what you've been through, the front's at the back, the back's at the front and it's sort of, even with the rehabs; that confused me even more. It was like coming there, everything was laid out and finally being put back in the right place.*" - Harry (ID 8), positive discharge; SIM

The above quote suggests that the regimen was appropriately paced for the patient, and allowed time for him to explore recovery on his own terms.

An overall positive mention was the most prominent sub-theme.

> "*Just it was probably one of the best things to happen to me.*" - Trevor (ID 24), negative discharge; OM

"*Yeah, listen, if anybody said to me about it, I'd say 'Go and do it now'. That's Dr. Strang; that was the best thing he ever brought.*" - Nicholas (ID 14), positive discharge; SIH

Positive comments about the IOT programme were communicated across all treatment groups and discharge status typologies. Positive dischargers and long-term IOTs were the most prominent of those expressing positive comments, however there were a few negative dischargers across this sub-theme also, and one clinic closure.

8.2.2. Supportive environment

The receipt of support through IOT was of great pertinence. Most notably this comprised support patients received from the clinic, however, support from friends, family, partner and other organisations were highlighted as important and relevant to the journey; outside support is outlined in chapter 10: Recovery.

As indicated, support from clinic staff and other patients were very relevant to patients' experiences.

8.2.3. Staff and keyworker

Patients illustrated that they had enough trust with the clinic staff to report their situation (for example, illicit use) honestly, and this appeared to further propagate feelings of security within the regimen. Positive mentions about staff, or the importance of a positive relationship with staff was pertinent to the narratives of those in long-term IOT and positive dischargers (including those from both the SIH and SIM treatment groups, though not OM).

"*I pick up my methadone every week. And I dole myself out daily. And I've never, in five years, however long I've been here, I've never come here and said 'Oh, I've run out of methadone, I spilt it, I dropped it, the dog ate it.' It hasn't happened, people tended to tell the truth when they came here. It was good. It still is. It is a good place.*" - Gerry (ID 20), long-term IOT; SIH

The relationship with the keyworker and clinic staff was specifically cited as an important aspect of treatment satisfaction and effectiveness, with a range of diverging responses. Specific mentions about keyworker and staff had strong prominence across the sample. Positive comments were more common than negative, however both perspectives were clearly apparent. There were slightly more positive comments about staff than negative, and double the number of positive comments about keyworkers than negative – however, still a significant proportion of both. It was apparent that this relationship was really key to the trajectory of experiences, and the impact of judgemental staff was specifically cited; as well as an even greater number of patients specifically highlighting the importance of a positive relationship with keyworker. Positive comments were expressed most prominently by positive dischargers and long-term IOTs, however positive comments were also expressed by several negative dischargers and clinic closures.

> "*We've been really lucky staff-wise. We've had a really good set of staff here that …They really believe in their patients. They'll support you as much as they're able to and although being on injectables went a long way towards me stopping using class As illegally, it was also the sort of intensive key-working. Not so much individual sessions with the key-worker but knowing that I could turn up here between sort of nine in the morning and four in the afternoon seven days a week if I needed, just to sit down and talk to someone, I know that I can pick up the phone or turn up here and someone will always see me.*" - Fay (ID 10), long-term IOT; OM

The above quote captures two of the two main elements of the treatment experience that this chapter aims to illustrate; holistic and psychosocial support, in addition to medicinal and clinical, and their synergistic effect and power.

> "*One thing I can say is, all the nurses there were dedicated staff, and people who wanted to learn. It's not down to them, the reasons why patients mess up or they don't, yeah. All the nurses and staff are lovely people.*" - Serina (ID 6), positive discharge; SIH

8.2.4. Negative perceptions of staff and keyworker

A proportion of patients illustrated negative experiences with staff and keyworkers.

> "*One of the workers - I can't remember her name - she used to like… I used to get the feeling she used to treat you like a smack-head, if you know what I mean? You know: 'You've come for your daily smack' and stuff like that.*" - Richard (ID 34), negative discharge; SIM

Negative experiences appeared to produce feelings of helplessness and anger, both of which could hinder engagement and recovery. Some of the criticism arose from instances of clinical decisions that were made that the patient did not agree with.

> "*I started off injecting intravenously, and I chose - I, me - chose to go intramuscularly. And did so for three or four months. And then one day I just fancied going intravenously. I wanted to; my injection, my body, my thing. And I said 'Please give me a short orange needle', and then some bloody busybody down there said 'Oh, have you asked permission to go intravenously?' And I said 'Well no, I haven't actually. And nor do I have to.' And so she flounced off to see the person next door, Dr. Smith, who said 'Oh no, that would be a retrograde step.' Well it wouldn't be a retrograde step, it's my decision, I'm still sticking a needle in my body!*" - Gerry (ID 20), long-term IOT; SIH

This links to the strength of the therapeutic alliance, and how key this is within pharmacological treatment as well as psychological. Another perspective was an 'us versus them' perception of doctors and staff versus patients. This signified a lack of trust in doctors and senior staff, and perhaps an attitude of simply playing the game to one's advantage, rather than engaging in a collaborative relationship of trust.

> "*The powers that are running this thing. They have got these ideas that we're born from some Freudian dream of theirs way back when they were at college and they believe it to be true. The trouble is, it's not true. To compound this error, they have paid a lot of money to promote the lie, to compound it even further they believe the lie, even though they can see that there's something wrong because it's not doing what it should be doing, so they ignore it. To further compound this they ignore everybody else, because who else is getting £200,000 a year, who else is looked upon as a god? Definitely not the junkies.*

And all that does is compound the myth that they're right. And they're not right." - Oliver (ID 16), long-term IOT; SIH

The opening line suggests that the above quote is specifically referring to senior doctors and management, rather than nurses and keyworkers who worked with patients daily. Negative comments about staff and keyworkers were expressed across all treatment groups and discharge status typologies.

8.2.5. Positive perceptions of other patients

Relationships with other patients in the IOT community was also an important aspect of IOT for some patients. Minor within-client issues (such as within-patient romantic relationship difficulties) were highlighted, but little impactful disharmony was cited. The majority of patients highlighted how positive within-client interaction was, and in some cases the beneficial effect this had for their recovery.

"*Because when you ain't got no work or nothing, it's something to look forward to; you meet people outside; speak to people; come upstairs; have a banter with the staff; sit down, sit and have a cup of tea or whatever and then go. So if you're not working, which I was working most of the time, but a lot of the time it was quite a nice experience. You had something to do. If you didn't have that you would literally be sitting indoors all day. So you could sit there and meet up with a couple of guys, walk round one's house, have a cup of tea or the local charity shop. …There was three people that I used to mix with on a regular basis. We all used to meet here early, because I used to have to go to work, and the other one used to pretend he used to have to go to work most of the time, and then the other two just used to turn up early anyway.*" - Charlie (ID 3), positive discharge; SIH

For Charlie, support from other patients appeared to be of significant importance to his recovery.

"*I say this was the biggest thing that helped me give up drugs; do you know what I mean? Like, the people; the staff; the environment; coming here every day; the friendship, the kindness of the staff and the people and that, because I would never have done it on my own, never.*" Charlie (P3), positive discharge; SIH.

As mentioned earlier, a number of patients spoke of calmness and stability within and around the IOT clinic, with positive relations between patients and staff and within the client group.

8.2.6. Negative perceptions of other patients

In contrast, a smaller number of patients highlighted the lack of trust with or dislike for other patients in IOT.

> "*Other patients. I find them really unhelpful. A bit like I said earlier there's 80 people* [inaccurate figure] *that attend that clinic we should be a really tight knit, we should have some power, but each one will stitch the other one up at the drop of a hat. There's no solidarity, there's no bond. I only have a loy'… like a loyal trust. I only trust one person, one other patient there. The rest I don't trust. They'd either get you in trouble for their own benefit at the drop of a hat, you know.*" - Shane (ID 21), long-term IOT; SIM

The above quote was particularly interesting, as the patient in question seemed on very friendly terms with both staff and patients alike, from the researcher's observations within the clinic waiting room. The above quote may have been referring to the current day IOT clinic, which included some RIOTT trial patients, along with a number of newer patients who had entered IOT post-RIOTT. Patients sometimes expressed neutrality on the topic of connections and friendships with other patients in the treatment programme.

> "*I knew everybody, but it was on a basis of, 'Alright?'; 'Goodbye'.*" – Nicholas (P14); positive discharge; SIH

Overall, and unsurprisingly, this experience varied across the sample, but when patients did perceive support and trust amongst patients, this was attributed as a contributory factor to effective recovery. A positive or neutral experience was interpreted across all typologies and treatment groups.

8.2.7. Feeling grateful

A powerful motivator for change – and perhaps a change from previous experiences - for patients was the fact that they felt supported, respected and listened to.

> "*Again, I'm just very, very grateful for the support and help that I got here, and how they understood not - like, as I said - not to rush in, not try to implement things without my say-so, and even if it didn't work, we was allowed to go back again and start again. That's what I'm grateful for; being listened to.*" - Charlie (ID 3), positive discharge; SIH

A sense of gratitude for IOT, and the clinic and staff was described by numerous patients. It is likely that the experience of gratitude is a psychological process implicated in successful and progressive recovery. The above quote also introduces the next sub-theme: Person-centred care and autonomy over treatment decisions.

8.2.8. Person-centred care and autonomy over treatment decisions

That treatment and care was person-centred and patients had autonomy over decisions that were made during their journey through IOT was a prominent theme across the sample and permeated multiple sections of interviews.

> "*That's actually the thing about it that I think this treatment offers that no other treatment can offer, that it gives you the opportunity to actually look at your relationship with heroin and to genuinely make a choice. I think Pam's* [another patient on the RIOTT trial – qualitative ID 19] *the first person who said that to me and that really hit home; you can't choose not to have something if you're not given the choice.*" - Ellie (ID 22), positive discharge; SIH

The power of having the option to say no to a drug that patients had spent decades of their life addicted to, was highlighted in other parts of interviews. That these patients perceived that they had never had the option to say no to the drug previously – and that this ability to make a choice was implicated recovery - was a powerful idea.

A number of patients articulate the realisation that the choice to stop using heroin is theirs – that there was no expectation for them to cease illicit use and remain in treatment - and this realisation carried great weight.

> "*It was almost like, for me, it was like given that choice it was like, well look, no one is telling you you can't, you're not in prison, you're free of will, you can do it this way or go back to…so it was just great in every way.*" - Harry (ID 8), positive discharge; SIM

The above and following quotes clearly articulate the power of treatment autonomy and the role this had in recovery. Patients felt that they discovered the importance of autonomy and control as they progressed through IOT.

> "*As far as making my own decisions, it wasn't really like I went in there, 'Oh, this is a principle of mine and that's the way it's gonna be.' It was just something that I discovered during the treatment, that it made a difference. That the fact that I no longer felt like I had to, so it felt like my decision, and it's really more a matter of hindsight, looking back, that I'm thinking, 'Well, that's what made the difference,' if you see what I mean...and it wasn't really at the time so much that it felt like that, it's just, sort of, looking back over the process. For me I think that's what made a big difference. Yeah, that it came from me; that it wasn't something that was outside pressure, 'Oh, you've gotta stop.'*" - Pam (ID 19), positive discharge; SIH

A number of patients cited the fact that having the control to make decisions about their treatment – such as dose changes – was a pertinent factor in subsequent recovery. As is demonstrated, the majority of these comments were by patients classified as positive discharge within patient typologies, perhaps indicating that reflections on the strength of treatment autonomy were only realised by those who had made their own decisions through to discharge from IOT. Person-centred care and autonomy applied to both injectable treatment groups (SIM and SIH).

8.2.9. Service-user involvement

Within each clinic there was a system whereby a pool of patients could take on the role of service-user representative, or a service user representative group who would work together for a period of time. This individual or group would liaise between

service-users and clinic staff in efforts to improve elements of the treatment service. A number of the patients who were interviewed for the qualitative study had at some stage taken on this role in their respective clinic. This role was highlighted as a prominent feature of individual recovery. This role gave patients more control over their treatment and provided a meaningful and important activity following the cessation of an activity (using heroin) that had been so central to their lives. The quote below is an example of one patient commenting on being a service-user representative; and the role this activity had in her recovery.

> "*But it's more like having found another direction because before, you know, although I was comfortable, I've never been in trouble, I've never been to prison, I've got a clean everything, you know, clean record and all that. But I was a bit floundering. I was, you know, 'What am I going to do? Where am I going?' You know. Now I'm stable.*" - Elena (ID 37), positive discharge; SIM

The patient describes the need for – and importance of - recovery in dimensions of life above and beyond cessation of use of illicit drugs. Patients were recovering wider, holistic areas of their life. Those who identified as service user representatives or who alluded to this role within their recovery trajectory were all positive dischargers or long-term IOTs, and across all three treatment groups.

8.2.10. Lack of autonomy and control over treatment decisions

In contrast, several patients cited a lack of service-user involvement or control, or that the idea of service-user control was an illusion that wasn't real. When perceived this way, this was a factor of great dissatisfaction for patients. These narratives permeated clinical decision-making, including dosage and dosage changes and the decision to leave IOT and/or move on to Slow Release Oral Morphine (SROM or MXL).

> "*No, they like to bend over backwards to make you think that you're involved, but you've got shit input; no input whatsoever. It's, like, 'We listen to you but that's about all. At the end you do what we say,' which is how it goes, isn't it?*" - Luke (ID 18), negative discharge; OM

> "*I'm doing everything, anything they ask me I do, everything. I've never said no, they've never had to punish me or force me or nothing. But when I ask for something, it's usually refused.*" - Gerry (ID 20), long-term IOT; SIH

Lack of patient control or autonomy was a feature of patient dissatisfaction with treatment. The following quote illustrates the detrimental effect lack of autonomy or person-centred care had on the patient's recovery.

> "*There was a little bit of peer pressure as well. Dr Jones wanted something back from me, in order for me to get, you know, to stay on the dose I was on, like, the treatment that I was on, because he wanted me to have extra days off. And I said to him, 'I'm not ready.' I was having one day off, I'd already lost my afternoons, and it was all going too quick. And then I started getting a bit stabilised, and then he wanted me to have another day off, and I said, 'No, I'm not ready,' and he said, 'Well, you know, you've gotta bite the bullet.' It was the worst thing he could have done for me, because I ended up using.*" – Fran (P13), long-term IOT; SIM

It was interesting that some patients perceived a system of give and take with clinicians, whereby they had to make changes stipulated by clinicians in order to maintain other areas of treatment. The quote illustrates the negative effect of attempting to move patients through the regimen more quickly than they are ready to make particular changes. This again adds imperative to person-centred, flexible, and individually paced regimens.

Negative experiences around patient control (and lack thereof) included negative experiences with clinical decision-making, such as perceived forced dose reductions. Some other patients mentioned that they felt their current dose could be reduced, and yet this was not encouraged. Other negative aspects of decision-making included being discharged from IOT (e.g., for violations of clinic rules), being moved on to MXL and being encouraged to reduce the number of injection days per week. Finally, some patients perceived that there was a lack of service-user involvement, and that perceived incorrect or unfair decisions led to a temptation to use.

> "*In the prescribing policy, say it's a weekend and there's not a doctor here, so if something happens at the weekends you're going to be suddenly put out in the cold and saying 'No, you can't have an injection today', so I think… Just on those few occasions that's where I've heard a lot of other people say 'Oh, right, I'm going to go and buy a bag of heroin'.*" - Tom (ID 9), positive discharge; SIH

Below is the narrative from one patient who was prevented from injecting intravenously, and hence needed to inject intramuscularly, as a one-off, and illustrates

the unhappiness that this caused. The potential effect of restricting patient control and autonomy over treatment decisions was illustrated within this narrative.

> "*I was very close to just going outside and getting hold of anything, score off the first person that I saw, that I thought might sell drugs, and getting some, just so I could go intravenously. It was a stupid attitude.*" - Gerry (ID 20), long-term IOT; SIH

Overall, perceived lack of control and autonomy was demonstrably detrimental to engagement and recovery, and this applied across the sample, including those with both long-term IOT, negative, and positive discharge statuses.

8.2.11. Individualised treatment journeys

Linked to autonomy over treatment decisions, was the realisation and reflection on the need for individualised programmes of recovery. By way of example, one patient highlighted that she felt like she was perceived as a "star pupil", and as such received favourable treatment, perceiving that other patients were treated differently.

> "*I did, sort of, have the feeling, because I was, sort of, a little of a, maybe, I dunno, a star pupil there, sort of thing, doing really well and all that. And, yes, I can, sort of, understand it all, so you don't wanna mess someone up who is doing really well, but then when I'd see other people in the same situation and they didn't get their dose, I'd, sort of, feel a little bit, hmm, you know, like, 'So, what's different about me, sort of thing?'*" - Pam (ID 19), positive discharge; SIH

By way of possible explanation, another patient highlighted the importance of an individualised treatment regimen, and highlighted the fact that in practice this could be perceived as different treatment (in both senses of the word) for different patients. This links to the idea – and importance - of an ongoing reflective awareness of the individual recovery journey.

> "*The fact that they know you really well and that you could be truthful and they do like plant seeds for ideas of 'Don't you think that you're being a little bit lazy sitting on your arse for a bit?' And then I'd think, well why is he not saying it to that person, that person's been on this programme for longer than me, but*

then it's obvious; because that person's not there yet." - Ellie (ID 22), positive discharge; SIH

This quote directly illustrates the need for, and strength of, an individualised treatment trajectory. Perhaps, also, the need to highlight the rationale for the importance of the individualised nature of care-plans to IOT patients, to avoid confusion and resistance.

8.3. Treatment duration

How long patients should be maintained in IOT was unexplored in the literature and an exploration of this was one of the thesis objectives. Perspectives on treatment duration involved ambivalence about abstinence, a desire to remain in IOT for longer, concerns and ambivalence about long-term IOT, a desire for take-home IOT or MXL and the alternative, yet relatively prominent, perspective that IOT should not be long-term.

8.3.1 Ambivalent about abstinence

Anxiety was apparent and ambivalence was clear in the narratives on the goal of abstinence.

"*My key worker at the moment keeps going on at me about going into detox, but I don't want to go into detox. So I really have to keep fobbing her off, saying, "Yeah. After Christmas, after Christmas," but I know it's just such a horrible feeling coming off that methadone.*" – Daniella (P1), negative discharge (other); SIM

This quote illustrates the strength of the apprehension about detoxing from methadone.

"*So I personally wouldn't change anything. Actually I think there were probably two choices there; there's a choice to either move forward and detox or take the choice to become a lifelong injector of diamorph and just stay safe that way. So yes, that's the two options there, the options to come off entirely or I*

would have stayed on using diamorph for ever more." - Tom (P9), positive discharge; SIH

The quote below illustrates the sense of the polarisation of treatment choices available to patients.

"*Where I am now, I'm happy to say goodbye, in a way. I just hope that that's not me kidding myself, if you know what I mean. I just hope that when I'm completely off the needle I don't then end up using street heroin again. I don't want to. I definitely don't want to.*" - Sammy (P11), long-term IOT; SIM

Here again the sense of hope is contrasted with quite apparent anxiety. On the one hand patients wish to feel positive and motivated by the idea of a new life without heroin or diamorphine treatment, on the other hand they are very afraid of what will happen when they discharge. The sense of not knowing how things will end up, and the anxiety this causes, is apparent.

"*I'm scared that I'm going to use, because I've got too much to lose these days.*" - Fay (P10), long-term IOT; OM

Patients felt they had gained a lot in their lives through IOT and are afraid of losing all that they have gained. Ambivalence about abstinence was expressed by patients across all typologies.

8.3.2. Desire for long-term Injectable Opiate Treatment

The desire for long-term IOT mainly applied to those who had left IOT, though a few patients still in IOT expressed anxiety, again, about the prospect of having to leave IOT. The desire to remain in IOT for longer was expressed across all typologies. Perspectives were either regretful (about the past – i.e., the decision to leave) or anxious (about the future – i.e., that IOT would end).

"*I was a little bit…sad that the injectable… I didn't really stop because it was my choice, I had to stop because I was in hospital, yeah, and I was a little bit sad about that because there was nothing I could do about that.*" - Andy (P23), positive discharge; OM

The above patient returned to the IOT clinic following his stay in hospital and eventually progressed to MXL treatment.

> "*At least for the next five years, because at the moment the thought of coming off it scares me, especially when it's being put up against a sort of timescale.*" - Fay (P10); long-term IOT; OM

The patient is referring to the Brighton clinic's newer 18-month treatment policy (i.e., 18-months left of IOT for those in long-term IOT and an 18-month regimen for those beginning IOT at that time). In contrast, another perspective was that whilst the patient still desired IOT, he did not envisage this timeline as indefinite.

> "*Not forever because I would have wanted to eventually stop, you know, I didn't want a straight line where I'd never ever stop, you know, I wanted a view to be able to complete that, finish, you know. My main aim was to get back to my normal self, you know.*" - Robert (P28); clinic closure; SIH

It was interesting to hear from a clinic closure, and particularly that this perception was still that the main goal was to eventually leave IOT.

8.3.3. Patient control over treatment duration

Another prominent sub-sample posed that IOT should be available to patients until they no longer wanted it; that the decision to leave IOT should be made by the patient, perhaps reflecting a perceived lack of control over treatment or concerns about the future.

> "*For me, I thought round about the five year mark was actually needed, because I'd had 27, 28 years of addiction; I first put a needle in myself at the age of 12 - vodka, and to get out of some of the heavier parts of the drug world I needed that time. The other thing was I had a fascination with needles and I needed time to get away from that as well, so I needed that extra time.*" - Tom (P9), positive discharge; SIH

The above quote again illustrates why, for some patients, long-term IOT was necessary for gains made from IOT to contribute to longer-term recovery. In response to views on IOT timeline, other patients' comments included '*Forever*' (Luke, P18, negative discharge; SIH), '*Till I'm ready to give up – I've never thought about giving*

up' (Ben, P15, long-term IOT; SIH) and '*I want to leave, but I want to leave when I am ready*' (Oliver, P16, long-term IOT; SIH). The anxiety about imminent departure was especially felt by the Brighton patients, because they had been put on a new time-limited policy (of 18 months, for those currently in IOT – 18 more months of treatment, and for those starting IOT – whom I did not interview, as of course were not RIOTT patients, an 18 month regimen).

> "*Not…do you know what, I'd rather…I'd rather be on this and satisfied that I'm saf…that I'm safe and secure than…than risk going back to what I was like and losing everything that I've got, back again, 'cos it's like the…you don't realise how much chaos you can cause in…in your life until you've been an addict, it's like everything goes to shit, nothing else matters, it's just like…I'd rather be safe in me own mind and be on this, I'd rather stay on this for the rest of me life knowing that I can keep my life under control. It's not going to happen but I would ra…that's what my…I would rather happen.*" - Ron (P27), long-term IOT; SIM

> "*So, you know. I sort of saw it or hoped it was, you know, something that, you know, I could use, you know, to come off of like heroin. That was the goal eventually but for it to be there for as long as it was needed because the change in my lifestyle like afterwards.*" - Josh (P41), long-term IOT; SIH

Faced with the prospect of treatment ending, patients currently in IOT expressed a desire to continue.

> "*Actually I would. I'm not going to fight or argue to stay on it because I think five years and six months, or however long they've given me, is a fair crack of the whip. It's a fair shake of the dice. But I think that people stop when they stop, to put it like that doesn't make much sense, but I've known lots and lots of addicts and lots and lots of them have just seemed to come to the end of it somehow.*" - Gerry (P20), long-term IOT; SIH

The above quote again relates to Brighton's newer 18-month policy. This policy allowed for a lengthy exit strategy – a notion which received mixed responses throughout interviews. That heroin users reach the end of their heroin-using careers eventually was corroborated by other patients who said they had grown too old to continue with the drug using lifestyle – that it was a 'younger person's game'. This, along with the stability that injectable treatment provided, was sometimes also the factor leading to long-term abstinence from illicit use.

Patients spoke about the specific benefit of IOT over the longer-term, and the idea that gains made would further improve, over a longer time-period. This contrasts with comments made by other patients who felt the initial gains plateaued within a shorter period of time, indicating that the IOT regimen, and associated care-plans, should always be individually tailored. It appeared that some patients felt that a finite course of IOT was beneficial, to reduce chaos, and gain some stability in their lives, whereas others felt that a long-term course of treatment was required to combat the decades of experience with heroin dependence. The theme was dominated by accounts from those who had been in long-term IOT. This links with fears around leaving IOT, which did not appear to appease amongst those who had been in IOT long-term.

8.3.4. Short-term Injectable Opiate Treatment

Another group of patients expressed their feeling that IOT was a short term treatment programme. As covered previously in discussions around the need for daily clinic attendance, patients cited the inconvenience of attending every day, as the reason they did not view IOT as a long-term treatment. This theme was dominated by those who had discharged from IOT – mostly those with positive discharge statuses, but also included some with a negative discharge status; there was an overall theme of acceptance, and the perception of reasons why IOT was not practical or necessary long-term.

> "*No. I think it was about the right amount of time. Because it's like your life is just controlled by it, every single day having to go there at a certain time in the day.*" - Daniella (P1), negative discharge (Other); SIM

Other patients alluded to the necessity of a care-plan which incorporated IOT timeline from the outset, and in some cases that IOT should be time-limited.

> "*You know what, I wouldn't say how long should anyone be on it, but what I believe is; there should be a, kind of, action plan. It's not, 'Here take injectables. Have it for the foreseeable future.' It should be, like, 'You're gonna be on injectables for 18 months, then you go on to, like, half and half, and then you go onto tablets.'*" - Charlie (P3), positive discharge; SIH

The above quote incorporates an eventual move to MXL ('tablets') in the envisaged trajectory. Judging other patients' treatment trajectory was tied into this, and was also common.

> "*And I believe you should offer short treatments of six months to people. People will either put the work in or they won't. I mean there's people still hanging around and on it to this day, whereas you should have made them come down a bit more.*" - Serina (P6), positive discharge; SIH

Patient typology is pertinent here, with those with positive discharge statuses being proponents of time-limited regimens, and those with negative discharge statuses being resentful of those in long-term IOT.

> "*And there's people doing it now. November's eight years. Some people are still on it. That, kind of, niggles me because that's not a maintenance treatment, but, you know, everyone to their own.*" - Matthew (P17); negative discharge; SIM

That initial gains had plateaued was an interesting comment by one client.

> "*…it was just becoming repetitive, I'd achieved all the initial stages of what it was supposed to do for me, and it had been a success, so it was just about keeping me stable now and getting on with doing whatever I had set up at the time, so there was no more I could gain from being here, so just put me on a stabilised script and that's it…*" - Harry (P8), positive discharge; SIM

> "*No, no, no, no, basically...I felt it had run its course. It couldn't do no more for me...*" - Nicholas (P14), positive discharge; SIH

Timeline policy for IOT appeared to evoke some very divergent views – with some very clear ideas contrasted with their respective opposing view. There was a clear split across typology, with fears and the desire for long-term IOT arising from long-term IOT patients, and acceptance and the perception that IOT should be time-limited, from those who had – in the main - discharged positively from IOT, with inclusion of two who had a negative discharge status, yet were abstinent from IOT, and stable at the time of interview. This demonstrates the possible benefit of a time-limited regimen for some individuals, and actively working through fears and anxieties, about the ending of treatment or moving on, with patients as they progress through IOT.

8.3.5. Returning to Oral Methadone treatment

There were a variety of different reasons for the return to methadone, such as a hospital admission, violations of the protocol, clinic closure (in the case of the Darlington IOT clinic), and moving out of the area.

> "*I went into hospital because I had a blood clot in my leg. Because I was getting oral methadone, I used gear and the gear that I had, had benzos in it, so they wouldn't give me the injectable. Where I wasn't getting the injectable I started using again and all the gear I had, had benzos in it, so I couldn't get back on the RIOTT. So that stopped for weeks and so I never ended going back on it.*" - Richard (P34); negative discharge; SIM

Sometimes patients outlined how treatment exit led to lapse and relapse. Narratives involved a mixture of factors implicated in lapse and relapse. Richard's quote continued.

> "*Yes, because the methadone wasn't holding me, and I think I got it upped, and that, and then I stopped for a while taking heroin - I don't know how long, my memory's not that good anyway, with all this carry on with the hospitals - but I used for maybe a month and then sporadic use and then finished for I don't know how long, and then got in with the wrong crowd again.*" - Richard (P34), negative discharge; SIM

Chapter summary

Overall, the 'Experience with injectable opiate treatment' section culminated in three superordinate themes: Components of the regimen – Injectable opiate medication; Components of the regimen - Holistic and psychosocial; and Treatment duration.

Patients described components of the regimen that had facilitated recovery. These narratives encompassed two separate concepts: Injectable opiate medication (the medicinal and clinical), and the holistic and psychological aspects. Both elements were key to effectiveness of, and satisfaction with, treatment.

Patients outlined their experience with the various medications they received. When questioned about medication, the tendency was to evaluate the medication through comparison to one of the other treatment medications – such as comparing SIM to SIH – or by comparing SIH to illicit heroin. It was interesting to discover that the latter two drugs were perceived very differently. It was of further interest to discover that whilst SIH was seen as satisfactory as – and sometimes better than - both OM and illicit heroin – some patients stated that they would not have purchased this form of heroin for recreational use. This is a very interesting finding, and perhaps the differentiation between effective IOT and illicit heroin contributed to the reduced desire to use illicit heroin. The drug was sufficiently reinforcing and alleviated withdrawal, yet was suitably different from illicit heroin to remove the attachment with the desire to use illicit heroin. This is a very important finding for IOT research; and the unanswered question: why is IOT so effective.

In contrast there were a few patients who found SIH unpleasant or strange. Opinions about additional doses of methadone were divided, with some vehemently convinced that it was not necessary – that SIH was sufficient in the sense that patients would not suffer with withdrawal before their next dose – and others who perceived that a small amount of additional methadone was necessary. Patients often wanted to move away from additional methadone doses and one patient describes reducing methadone too quickly, which led to a relapse. Overall, patients had negative and varied perceptions of additional methadone doses.

A number of patients stated that they had decided to remain on SIM treatment, rather than move over to SIH, since it was effective enough. Some patients described those on SIH as overly intoxicated or sedated, and asserted that they did not wish to be in this state. One interesting comment was by a patient who had begun on SIM

treatment and who moved to SIH at six months; this patient stated that the initial six months on SIM (positively) altered his relationship with illicit injecting practices. The benefit of the injectable nature of IOT is illustrated by this patient. The longer-acting nature of SIM was also viewed positively – with patients preferring attending the clinic only once per day for their dose. In contrast, a number of patients identified adverse events that occurred while they were in treatment, or continued their illicit heroin use. In one case the patient states that being on SIM was an excuse to continue using illicitly.

Dosage and achieving the right dose was an important and prominent theme. Patients cited autonomy in this process and one outlined a fear that the optimised nature of dosing may be lost in clinical practice (i.e., outside of the pragmatic trial). In support of the importance of adequate dosage were accounts of lapse and relapse following dose reductions.

There was a balance of both positive and negative comments about the IV versus IM route of administration, but overall IM was satisfactory to patients. Patients appreciated the fact that the IM route of administration was another way to sever the connection to illicit use; the fact that it was different (similarly, the drug itself was perceived as different) was appreciated. This also applied to the perceptions of the difference in the type of 'hit' obtained intramuscularly – once again, this was experienced differently to the experience of illicit heroin, and this was valued. IM administration also reduced track marks on patients' limbs, which came to be important. In contrast one patient appreciated that sedation only took effect once she had made the journey home. Similarly, the majority of patients came to appreciate attending the clinic once per day as opposed to twice per day. This is a positive step in light of those who, at treatment outset, were attracted primarily to 'free heroin', and who would have previously sacrificed everything for illicit heroin. Following a period of adjustment, patients came to appreciate the clinical environment that SIH was administered in and appreciated that, again, this was a way that the connection to illicit use could be altered or severed.

The other aspect of the experience of IOT that was of importance to patients was the holistic nature of the treatment, and that it encompassed psychosocial elements. This manifested itself through various sub-themes. Positive relationships with keyworker and staff were important, as was the sense of community created with other patients; in a few cases the latter was seen as instrumental to later recovery. This is another way in which IOT is very unique, and perhaps partly why it was effective. Additionally,

the impact of negative relationships with staff and other patients was an area of difficulty and, in the case of staff, may have been connected to the desire to use illicit heroin.

Patients expressed gratitude for the support they received through IOT, and the fact that they were respected and listened to during the process. Linked to this was the value of patient autonomy and control over treatment decisions. Patients articulated the interesting reflection about the power and strength of the ability to say no (e.g., through dose changes or switching to MXL) to a drug that they would have once done anything for. Patients reported that they were not being forced into anything through IOT, that the decision not to use illicit heroin, and to remain in treatment was theirs, and that this fact carried a lot of weight in effective recovery. Patients stated that they had made these reflections following IOT, which emphasised the value of reflective space, perhaps for effective recovery. For those who were service-user representative, this role was significant. The autonomy and control over treatment this provided was important, however the role itself served as a meaningful activity; and perhaps a protective factor.

In contrast, a perceived lack of control over treatment decisions, or lack of patient autonomy caused annoyance, distress and dissatisfaction. In one case the patient links this to the desire to use illicit heroin. The importance of the flexibility and individuality of pace of the regimen was highlighted by patients. Linked to this was the next theme; treatment duration. There was a reasonable amount of ambivalence about abstinence. Whilst it was a goal for some patients, the perception of it also caused some degree of anxiety and stress, to others. One patient expressed apprehension about detoxing from methadone. Patients feared that they would relapse in this process and lose everything that they had worked so hard to achieve. The fact that patients had achieved a lot through IOT allowed them to perceive also, how much they had to lose.

Some patients expressed a desire to remain in IOT. This was often expressed by those who had discharged – for example, in the case of a hospital admission. Patients expressed regret over these situations and/or decisions. Perceived control over treatment was important in this context also. Patients wished to have some degree of control over treatment duration. Some patients perceived that they needed to undertake long-term IOT, since their addiction history was also so lengthy. In this context also, patients expressed high levels of anxiety about leaving IOT. Some patients perceived that gains achieved had plateaued, whereas others believed that

the longer they remained in IOT the more gains they would make. Some patients perceived that the requirement for everyday clinic attendance was unsustainable longer term.

One patient expressed a desire for the trajectory to be mapped out at treatment outset. There was clearly a high level of anxiety about the unknown, which is reasonable. This perhaps add weight to a finite IOT trajectory, with a stipulated end date made clear at treatment outset. Patient typologies were pertinent in this final theme, with negative dischargers resentful about having to leave IOT; positive dischargers proponents of time-limited IOT; and long-term IOTs expressing significant amounts of anxiety about leaving. For those who had transferred back on to oral methadone treatment there was some degree of lapse or relapse amongst this sub-group.

Satisfaction with treatment ran through all sections of narratives, and in particular the current chapter. For this sample, satisfaction with treatment encompassed the following dimensions (the majority of which have been outlined in detail already): treatment effectiveness, aspects related to the clinic setting itself, patient control over treatment (as previously outlined), relationships with staff (also previously illustrated), the holistic nature of the regimen, procedural aspects of treatment delivery, a reflective awareness of recovery, and general positive mentions about the treatment or care received. Patients spoke favourably about aspects of the treatment medication itself, such as the superior bioavailability of this drug, that withdrawal was not as unpleasant as oral methadone treatment and that the drug was sufficiently reinforcing and thereby they were not tempted by illicit heroin use.

This leads on to the next chapter; chapter 9 - Impact of IOT.

Chapter 9 – Findings: Impact of IOT

Chapter eight describes patients' narratives on the impact of IOT. Patients were not directly asked what they perceived the impact of IOT was, however this was a theme that emerged from narratives overall. The impact of IOT was experienced within a number of dimensions of life. Sub-themes within this theme included significant and positive impact on the following areas of life: illicit use and the achievement of abstinence; improved quality of life; psychological recovery, developing a non-using identity, and leaving the drugs subculture; education and courses; improved relationships; improved health and harm reduction; improved housing; protective factors (arising both as a consequence of IOT and as protective aspects of patients life which decreased the likelihood of relapse; likely a two-way relationship); stability; and gratitude (again this was likely a two way relationship – both as a consequence of IOT, whilst also becoming a factor protecting patients from the likelihood of relapse). The full list of themes and sub-themes for the impact of IOT chapter follow.

Table 44. ***Outline of the 'Impact of Injectable Opiate Treatment' chapter themes and sub-themes***

Reference	Theme	Sub-theme
9.1.	Reducing or ceasing illicit drug use	
9.1.1		Achieving abstinence-based recovery.
9.2.	Improved quality of life	
9.3.	Psychological recovery	
9.4.	Leaving the drugs sub-culture	
9.5.	Developing a non-using identity	
9.6.	Education and courses	
9.7.	Improved relationships	
9.8.	Improved health and harm reduction	
9.9.	Improved physical appearance	
9.10.	Improved housing	
9.11.	Achieving and maintaining stability	
9.12.	Reflective awareness of recovery	
9.13.	Feeling grateful	
9.14.	Protective factors	
9.14.1.		Service-user involvement
9.14.2.		Caring for pets
9.14.3.		Hobbies and passions
9.14.4.		Relationships with family and dependents
9.14.5.		Reduced quality of illicit drugs.

9.1. Reducing or ceasing illicit drug use

The first theme to be outlined and analysed is illicit use. Illicit use was the most prominent theme and encompassed a number of different elements of patients' experience. Comments and experiences ranged from the perceived efficacy of the substitution drug itself - in relation to reducing craving and the desire to use illicitly - through to the impact that IOT had on patients' psychological processes in relation to their illicit drug use and recovery; including increased motivation to make change. For some patients, however, there was a continued use of illicit heroin and ongoing worries and fears; these will also be outlined.

In some cases the cessation of illicit drug use was sustained long-term and in other cases it was not. Of interest was that for some patients their perception of IOT effectiveness (as defined through cessation of use of illicit drugs) also encompassed a positive experience of injectable methadone treatment for the duration that they received this particular treatment. For whom this was relevant, the complete trajectory is illustrated. Two key aspects of importance were the need for a period of adjustment, and achieving the right dose.

> "*I stopped using heroin for about two years when I was on the RIOTT scheme – all the time I was on the RIOTT I did stop using.*
>
> *…With heroin I was completely satisfied with the injectable methadone. I didn't use on top at all.*" - Daniella (P1), negative discharge (Other); SIM

Whilst patients may have spent time adjusting at the beginning of IOT - to the new way of life - in a number of cases the same patients were those who had abstained from illicit heroin use for a number of years.

> "*I had got on a comfortable dose, and I did, sort of, stop using street heroin, but not straightaway. Quite soon after that, I dunno, probably about six months into the programme that I stopped using street heroin…*

There is a need for a period of adjustment to treatment, and for this reason abstinence from illicit use was not immediate and took some time. This is useful information for policy and practice.

> *…I started on the RIOTT, September 2007. I stopped using street heroin probably about, I dunno, a maximum six months into the treatment. So, I probably stopped using crack sometime in the summer after that, so summer*

of 2008. It was, sort of, summer or early autumn, I would say, I stopped using crack all together. So it's been, what, 2008, 2009, 2010; five years." [Six years at time of interview]. - Pam (P19), positive discharge; SIH

The above quote again illustrates the trajectory of progress; in this case in relation to use of other illicit drugs taken in addition to illicit heroin. The following quote illustrates the psychological processes of change within the IOT treatment trajectory, and in this case, how IOT changed patients' perception of illicit heroin and its harm.

"*No, I don't use heroin anymore. If one thing positive came out of the RIOTT trial, it made me afraid of the strength of street heroin. My boyfriend always used before me, and I was always scared of… and still am. I don't use anymore street heroin because I'm afraid of the potency of it.*" - Clara (P7), negative discharge (other); SIM

Additionally, a number of patients specifically mentioned that they ceased illicit use of heroin right at the beginning of the treatment programme. Narratives on reducing or ceasing illicit heroin use also included the fact that IOT motivated patients to attempt to demonstrate IOT's effectiveness, and the impact of dose stability on eventual cessation of illicit heroin use.

"*Oh it was almost instant, Vicky, I was really surprised. Once it was adjusted and I was getting my right dose and I was satisfied, I was just on the right sort of buzz and I wasn't… it was an instant success.*" - Harry (P8), positive discharge; SIM

Use of the term 'instant success' perhaps illustrates the patient's level of satisfaction with IOT. Connected to this, patients highlighted that illicit heroin (and in some cases crack) use occasionally continued at the beginning of treatment – but eventually stopped completely, and that it was initially difficult to change the drug using routine. This demonstrates, again, that longer-term IOT was necessary for longer-term change in some cases, and how significant the initial period of adjustment was.

"*Once I was on my own I think I used twice, and that was, like, just smoking some crack, and I had a bit of gear after, then that was it. Done. I never used again.*" - Charlie (P3), positive discharge; SIH

The quote demonstrates the long-term effect of IOT on illicit drug (heroin and crack) use, and even following a positive discharge status. As also introduced above, a number of patients mentioned the implication of dose stability on the cessation of illicit

drug use, and this was often the context for continued illicit drug use at the beginning of the trial.

> "*Certainly the only lapse after I'd been here three months. Because while I was still increasing my dose I had to go out sometimes because they weren't giving me enough. But once I reached my optimum dose I didn't use at all.*" - Jerry (P20), long-term IOT; SIH

Patients also spoke about the reduction in illicit heroin use and that IOT motivated the desire to reduce illicit heroin use. Even in the context of reduction rather than cessation, patients alluded to a permanent positive change to their level of illicit heroin use.

> "*Well I was doing that, I thought I was doing pretty well, but since then... Since I did that, I haven't gone back to how I was before, because I was really chaotic before I was doing that. I haven't ever gone back to the amount I was using before I went onto that. So I have kept it down.*" - Daniella (P1), negative discharge (other); SIM

The above quote specifically illustrates the impact of IOT on long-term illicit (both heroin and crack) drug use and lifestyle. One of the main narratives that arose from the interviews, in relation to impact, was that IOT served as a positive interruption to the cycle of chaos and harm patients were causing to themselves prior to IOT. The situation of the individual patient at referral to IOT varied across individuals but in all cases the cycle of harm and chaos was broken and improved upon through the course of IOT. Effectiveness by means of cessation or reduction of use of illicit drugs was pertinent to all typologies and treatment groups.

9.1.1. Achieving abstinence-based recovery

A number of patients mentioned that they had achieved complete abstinence as a consequence of IOT. The abstinence theme encompassed various strands including complete abstinence (including those abstinent from maintenance medication also), narratives on long-term abstinence, and a complete lack of desire to use illicitly. Achieving abstinence had clear presence within the data set, and was arguably the ultimate goal of IOT for many patients. Trajectories illustrate the progression to abstinence.

> "*When I left RIOTT I was on a methadone script in [name of neighbourhood], and then I sort of eased off, and something happened, and then I just never went to renew it, and touch wood I haven't gone back to using; mainly, I think, because I don't want to.*" - Harry (P8), positive discharge; SIM

Through IOT, some patients were able to access a vision for the future that did not involve heroin or maintenance medication.

> "*This was about two years without using injectables, and then I just cut myself down. And just, one day, I hurt my leg and I thought, 'Oh, well, I'm in so much pain with my leg, let's try and stop using it: MXL,' and I did.*" [VB: So you're not on any treatment drug now?] Patient: "*No, no, no, no, no."* - Charlie (P3), positive discharge; SIH

Through the achievement of clear changes during a longitudinal IOT trajectory, patients may have cultivated confidence for the ability for abstinence-based recovery (i.e., discharge from all maintenance treatments) – as illustrated in the quote above.

> "*I got kicked off on to a 50ml methadone. I got down to 2mls and I was gonna go away, I think it was a Thursday. Well, I went there and I was given the Friday, Saturday and Sunday dosage and I took off to Scotland with a 2ml habit. I stuck it four months up there, clean, and I haven't looked back since, but that's four years now.*" [VB: So, you're not on anything now?] Patient: *Nothing.* [VB: No methadone, nothing?] Patient: *No, no, no, nothing.* – Matthew (P17); negative discharge; SIM

9.2. Improved quality of life

The next theme within the impact of IOT section of the findings was 'Improved quality of life' – that is, patients made improvements to various dimensions of life as a consequence of IOT. This was a large and diverse theme and sub-themes will be outlined. Overall this theme encompassed both areas of gain (amassing something positive; e.g., achieving education and completing courses) and cessation (obliterating something negative; e.g., leaving the drugs subculture).

Patients specifically illustrated general areas of life where they had experienced progress and improved quality. These included: psychological progression; improved family and relationships; beginning and engaging with education and courses;

improvements to their financial situation; decreased harm reduction and improved health; improved housing; the development and progression of goals; reduced or ceased criminal justice involvement; significant changes to situation and life, and in some cases the perception that IOT saved their life. As previously outlined, a number of patients mentioned that they thought IOT had changed their lives and others, that without IOT they would be dead. This indicated the strength of the impact interpreted by patients. This particular belief was asserted by long-term IOTs and positive dischargers. Patients appeared acutely aware of the level of instability and chaos they had reached at their referral to IOT, and again, perhaps connecting – through IOT – to this awareness of how bad things had got, is linked to the ability to make change and recover.

> "*Well, it saved my life, basically, because I was in a bad way, and I think if I hadn't have gone on that, and my life was still chaotic, I think I'd be dead now.*" - Fran (P13), long-term IOT; SIM

Patients described improvements to the quality of their lives, as a consequence of IOT, with particular reference to feeling more integrated into society and their renewed connections with (non-drug using) social groups.

> "*I've got a lot of good friends who run their own businesses and things like that and when I see them now, I go to the pub with them, I don't drink, I get a coke, we play pool, we all have a laugh and a joke, but when I was on the drugs, they wouldn't even stop in the car, they'd just keep driving, but now they see I've made a change and it's not just a little change, it's been a five year change and they can see it in me. When I went to prison I was 9 stone 8...I just weighed myself over there, I'm 16 and a half stone. When I went into prison, I was all sucked in.*" – Nicholas (P14), positive discharge; SIH

Patients may have felt more connected to society following IOT, they were also able to see that people cared for and respected them; that they were worth something, and thereby their life was worth something.

> "*Like I said there's two ways I'd be now if I wasn't in treatment, I'd either be dead or totally forgotten about and that's scary just to think about that.*" - Scott (P35), long-term IOT; OM

Within improvements to quality of life was reflective awareness, once again, on the harms patients had previously caused to themselves, or at best, risked causing to

themselves. Patients expressed that they felt grateful for the awareness of potential harm. Patients were also those with long criminal justice histories, and through RIOTT became motivated to never return to prison.

> "*All that was going to end up happening was I'd end up getting an injection and I'd end up dying. Or I'd have ended up back in prison.*" - Wayne (P30), clinic closure; SIM

Patients indicated changes to their psychological perceptions. Patients spoke of developing their non-using identity, a desire for stability, and that goals (further) progressed over time (which applied to all typologies). Sub-themes in improvements to quality of life were often cross-cutting themes (previously outlined) and encompassed the following areas: health, education and courses, family and relationships, harm reduction, housing, psychological adjustment, and illicit use. Improved quality of life spanned all typologies and treatment groups.

9.3. Psychological recovery

Connected to quality of life was psychological progression. Patients spoke about improvements to self-esteem, and overall, IOT seemed to provide new or increased self-belief and self-efficacy (including through the development of a non-using identity). This was sometimes in parallel to an overall sense of hope and faith in the treatment, mirroring how some patients felt at treatment outset.

> "*I felt good and they could see that I was committing to the programme and that I was keeping myself together and sort of just coming in, being positive, speaking, doing what I done and then saying, right I'll see you this afternoon, bye, I'm going off to college now, I'm going off to…it gave me that sense of importance which I'd never had before.*"…
>
> *…. And I think it would happen for everybody eventually.*" - Ellie (P22); positive discharge; SIH

That IOT led to psychological development, feeling important and of worth - and engagement with recovery on this level - was experienced across the sample; amongst all typologies and treatment groups. One particular aspect of the drug using identity was involvement in the drug using subculture, and consequently leaving this

sub-culture was a prominent element of the impact of, and recovery during, IOT. This leads on to the next sub-theme.

9.4. Leaving the drugs subculture

Strongly linked to the drug-using routine was involvement with the drugs subculture, and as evidenced in the 'Heroin use history' chapter, peers within this culture were triggers to continued use and lapse/relapse. Similarly, leaving this subculture was both a consequence of IOT and also a factor that comprised the trajectory of recovery and improved quality of life.

> "*And it was only until I got onto the RIOTT, when I moved out of the druggy environment, that I, kind of, just worked my script, kind of, thing, and it was the only thing that kept my head okay and my sickness away. It, kind of, worked both ways.*" - Charlie (P3), positive discharge; SIH

The quote illustrates the patient's insight in to the two-way nature of the benefit of removing one's self from the drug using environment; whereby this is interpreted as both a symptom and cause of making progress and continued recovery. For some patients this had been a very deliberate step, i.e., with the awareness that the sub-culture is a trigger and that IOT provided space and stability for this longer-term awareness of relapse prevention strategies.

> "*That's why I'm out in the country and when I come to get my methadone I ring them up and my partner drives me in and drops me outside the clinic; pharmacy, chemist, pick up my methadone, straight out, straight in the car, I don't want no connections with nobody, I don't want to sit in there for five minutes with people coming in and talk to you, no I don't want nothing to do with them, nothing….Yeah I can't live in the city any more, I can't do it, I don't think I'm strong enough, I might be in the future but I'm not at the moment.*" - Jacob (P4), negative discharge; SIM

The above quote illustrates how the impact of IOT continues to be experienced, by somebody who now receives oral methadone. IOT interrupted the cycle of difficulty and the resultant stability led to the development of new healthier patterns of engaging effectively with treatment, and an awareness of what triggers to relapse are. This awareness was key to ongoing relapse prevention. As indicated above, one

prominent aspect of the drugs subculture was the other drug users within these circles, including those accessing treatment in clinics and dispensaries. Consequently - within this qualitative sample - patients often chose an isolated life, rather than risking susceptibility to the influence of peers.

> "*I don't mingle with people. I'm strictly on my own now….I don't have a phone anymore. Because even like if I don't give them my number they'll get my number somehow. So I don't have a phone. I've got one but I just don't use it. I've switched it off. Because that's why I can't have any friends round.*" - Iain (P25), positive discharge; SIM

> "*Well I know them* [other IOT patients] *but I don't really associate with many. I mean I've been quite a loner, to be honest, for the past six years.*" - Elena (P37), positive discharge; SIM

As previously outlined, patients were consciously aware of this step, and the necessity of it, and it was both a symptom and a cause of continued recovery. An isolated life was preferable to the chaos and instability that was present before patients engaged with IOT. Distancing one's self from heroin using peers was a highly prominent feature of impact and recovery; applying across the dataset, encompassing all typologies and treatment groups.

Included within the impact of recovering from engagement with the drugs sub-culture theme were long periods of time not involved in the criminal justice system and incarceration. This was in the context of a population who had previously cycled in and out of prison, as demonstrated in the heroin use history chapter.

> "*It's the longest I've been out of jail. When I was on the street it was, I was in trouble, big trouble; in and out of prison.*" - Scott (P35), long-term IOT; OM

> "*I wasn't going out thieving for money for drugs every day, and I got out of that habit – for two years I never went out thieving – I don't want to get back into that again now.*" - Daniella (P1), negative discharge (other); SIM

What was particularly noticeable here was the strength behind patients' resolutions to remain stable, and, more particularly, never to return to the drugs sub-culture, indicating that patients may not have ever had reflective space (i.e., a period of abstinence long enough to reflect on their individual recovery) for recovery prior to IOT, and this was what was required (and provided through IOT) for recovery in this

domain. Following leaving the drug using subculture, patients were able to develop a non-drug using identity; outlined below.

9.5. Developing a non-using identity

As was highlighted within the heroin use history chapter, that patients lost their non-using identity through illicit heroin use and as part of their recovery patients were able to re-connect with or develop a non-using identity, during, and as a consequence of IOT.

> "*I was quite positive of what I was doing and where I was heading. I didn't want that life back again. I'd got so far, that after a year or two of not using, and I was, like, volunteering, just into work. I was mixing with some really nice people who weren't using, der, der, der, I didn't want to go back. I knew from then that using wasn't for me no more, you know what I mean. I just knew I weren't gonna go back.*" - Charlie (P3), positive discharge; SIH

Through the experience of sustained stability patients were able to create a new identity, and in some cases with new contacts and friends being completely unaware of the patient's drug-using identity and past.

> "*And while you're here* [in IOT] *like moments, significant moments, are stuff like going out for a drink with one of my lecturers and he had a story about somebody he knew who was a bit crazy and it's like, oh my god, somebody is sort of saying it to me like, and they clearly have no idea, and that was amazing; that was like 'yes!"* - Ellie (P22), positive discharge; SIH

In this instance, the patient is celebrating being viewed as a 'regular' person in society, and not a drug user or 'junkie', or even 'different'. The patient has first enrolled on a university course; and then later celebrates continued success by means of being accepted by the relevant cultural and peer group. In this context being accepted carries greatest significance. The perception that patients had created, or were venturing towards, a non-using identity was expressed by positive dischargers only.

Also linked to the development of a non-using identity was engagement with education, courses and activities. Again, this was a consequence of IOT, and facilitated psychological recovery, linking to a more positive self-esteem and self-

regard. This was likely a factor in patients' determination to not return to the drug using lifestyle and subculture (outlined below).

9.6. Education and courses

As a consequence of IOT some patients engaged or re-engaged with education. This ranged from completion of short courses to university degrees. In this context patients made reference to their histories, such as education being interrupted at a young age. The fact that patients were making such big changes to their lives overall at this point, really illustrated the profound effect that IOT had on their recovery trajectories.

> "*I started going to college, getting a little bit of education, like, learning how to use a computer. A bit of maths, a bit of English, because obviously, I left school at 14, so I wasn't really educated that well. So I went back to college, got NVQs and diplomas and stuff like that.*" - Charlie (P3), positive discharge; SIH

Within these narratives arose a sense of optimism, hope and motivation to educate one's self, since recovery from entrenched addiction.

> "*I can't read or write very well, but I was going to classes, although I didn't have to because I was getting money sent in, but I still wanted to try and educate myself a bit more, you know... And...now...I read books, it might; like my father used to read a 600 page book in a day, but it might take me three weeks, but at the end of the day...*" - Nicholas (P14), positive discharge; SIH

> "*I'm doing a degree.*" - Pam (P19), positive discharge; SIH

Engagement with education and courses was a strong sub-theme and was pertinent to all typologies and treatment groups.

9.7. Improved relationships

Also connected to development of the non-using identity was the impact that being in IOT had on relationships, including interactions and dynamics with family members and dependents. Relationships were rekindled and reconnected, and patients stated that they became more of a role model to their dependents. Families started to trust

patients again, in the context of abstinence and recovery. Patients also mentioned cessation or reduction in the context of protecting dependents, and in some cases this manifested as a developing awareness which cultivated and progressed by virtue of the stability created by IOT. As previously, stability in this regard was progressive and further developed over time. Patients also spoke about family support in the context of IOT – that their families were supportive of the treatment, and this perhaps had a role to play in improving their quality of life. This is especially important given that heroin users who are dispensed medication in pharmacies are often judged negatively by wider society.

> "*I work, his mum doesn't; for money I work and I've always got money, you know, so at least he's got the difference to see and he has a father figure in his life.*" - Reg (P12), long-term IOT; OM

Not only did the above patient reconnect with his son during IOT, but he is explicitly aware of how his stability and drive (career wise) will positively impact his son. Once again the progression is evidenced; first the reconnection, and secondly, the impact of being a positive role-model following this reconnection.

> "*And I've got children. I've got people that...look up to me, you know. I've got young people that look up to me, you know.*" - Jason (P26), negative discharge; SIH

Once again, what initially arose as a consequence of IOT – the space and stability for reconnection with family – then became a protective factor from lapse and relapse over time. Critically, patients were recovering their lives, as well as from their addiction.

> "*My relationships with my family are massively better than they were. I mean, they're talking to me which before I hadn't seen most of them for going on twenty years. …It changed in terms of my family because I was able to prove that I wasn't using. I mean, my dad wanted visible evidence so I got the staff to print off my sample sheet and once he saw that I hadn't actually used anything in 18 months he was willing to take sort of baby steps to see where it would go.*" - Fay (P10), long-term IOT; OM

Interestingly, the above illustrates how a good relationship with staff and the clinic impacted relationships the patient had with wider support networks and their ability to

engage with progressive steps through recovery. This theme was relevant to all typologies aside from the (smaller sample of) clinic closures.

9.8. Improved health and harm reduction

Patients outlined various ways in which IOT had positively impacted health. Here the holistic nature of the programme was particularly illuminated. Patients made changes and achieved gains in various aspects of their health, including much wider areas such as weight loss and nutrition.

> "*Yeah they sent me up to a dietician there and she was great, she trimmed over, just over three stone off me.*" - Trevor (P24), negative discharge; OM

Deliberate weight loss for better health is obviously not an aspect directly relevant to the impact of IOT *per se*, nor would it be a goal for all patients (some may be underweight). However, it indicates an engagement with wider areas of life and health, by virtue of, firstly, the holistic support available through the programme, and secondly, increased motivation to make these improvements. Patients specifically highlighted improvements to health as a consequence of IOT.

> "*Trying to score and running out of veins. It wasn't good. My health wasn't good when I started. It's much, much better now.*" - Gerry (P20), long-term IOT; SIH

Patients highlighted how the clinic engaged with their wider health. In the following quote the psychological processes around gratitude for good health and negative test results are illustrated. This gratitude motivated patients to be more health conscious and health improvements progressed to healthier cognitions about health and new goals.

> "*They encourage you to go and have an AIDs test and all that stuff. It's things that you wouldn't do, I wouldn't do normally. It was good because I thought 'right, I'm not gonna do anything now to risk that' if I've got away with it I'm lucky and I'm now not gonna gamble, you know. So they encourage you to go for these blood tests.*" - Shane (P21), long-term IOT; SIM

Once again, a new – in this case health - consciousness was created by IOT. Harm reduction was also highlighted in the context of the requisite for every day clinic

attendance. This protected patients from health problems and adverse events that might not have otherwise been noticed had the patient not been attending the clinic every day.

> "*It was one of the nurses at RIOTT that actually probably saved my life; Sandra, she used to work here and work in the injection clinic. I came in for my afternoon injection one Friday, I think it was, and she said you look like you're going to keel over; you need to go to A&E now.*" - Andy (P23), positive discharge; OM

Patients spoke about the impact IOT had on their previously risky or dangerous injecting practices. IOT allowed patients to become more health conscious and through this process they were able to reassess their perception of risk, and their own propensity to engage in risky practices. Once again it appears that the stability that arose during the time spent in IOT created space for reflection on previously dangerous practices, which allowed and prompted room for further change.

Patients outlined harm reduction, safe injecting, and also that IOT had specifically had an impact on their injecting practices; that these practices became safer. A few patients also mentioned the fact that IOT provided space for them to make changes to their – problematic - alcohol use. Patients demonstrated a conscious awareness of the harm reduction approach that IOT offered. It may be that the stability gained from the fact that IOT offered clean, clinically pure heroin, allowed patients to fully comprehend the risk of damage street heroin – had been and - could cause, and that this awareness is implicated in the motivation to cease use of illicit heroin.

> "*After a week or so you get your heroin back, but you'll now get street clean heroin, a street-free heroin, you're getting clean heroin, which is not going to do the same damage, it's still going to damage you but not anywhere near the same, like with street heroin.*" - Oliver (P16), long-term IOT; SIH

Patients highlighted their lack of control over injecting, and thus the uncontrollable risk to health.

> "*So keeping you away from the dealers and preventing these kind of health problems that could have just become …That I would give myself. Because I had to inject, I'm an injecting junkie, you know. I want to inject everything. But I've got no veins left. But that doesn't stop you.*" - Shane (P21), long-term IOT; SIM

Illustrated also was the impact on wider health behaviours. For example, since heavy alcohol use was forbidden during IOT, patients had the opportunity to make changes to problematic drinking patterns.

> "*It's decreased a lot, it was very heavy. Yeah before the IV clinic I drank 15 cans a day. Strong cans, yeah. The IV clinic they would not let you drink, we'd sneak one a day you know because it'd show and they would go 'Oh no', they wouldn't let you, no they wouldn't let you.*" - Trevor (P24), negative discharge; OM

Changes to drinking patterns were often significant following IOT. In one highlighted case the patient was required to detox from alcohol dependence before he could begin IOT – and this detox was successfully achieved, demonstrating the wider – indirect - health impact of IOT.

> "*I went into the AAU* [Acute Assessment Unit – a detoxification unit] *at the* [name of mental health hospital]*. Yeah and came off the alcohol there, that worked for a while and then just before I was given a date to start the injectables and just before that I went onto a five-day detox for the alcohol, came off the alcohol and then January 2008; that's when I started injectables.*" - Andy (P23), positive discharge; OM

9.9. Improved physical appearance

Another related factor mentioned by several patients was an improvement to one's physical appearance, as a consequence of being in IOT. This is another factor that may also feed in to and link to the creation of the new non-using identity; an identity which may have inspired patients to continue to cultivate.

> "*Everyone was saying how well I looked…And then be well turned out, do you know what I mean, instead of, like, looking like a tramp all the time.*" - Jason (P26), negative discharge; OM

Here the patient is also getting feedback from the outside world, which may further accentuate the desire to maintain the non-using identity. Patients described the multiple ways that they looked and felt better. Patients outlined that looking after themselves involved washing themselves and wearing clean clothes, and this made them more approachable to the people around them.

> "*It's made us more approachable, made us back to normal, like dressing properly, washing every day, cleaning. You know, I didn't wash my clothes, my house, everything. Eating and stuff and the way you dress and all that. Looking after yourself basically…but looking after yourself, cooking and stuff and washing, cleaning and all that. It makes a difference actually, do you know what I mean?*" - Patrick (P39), long-term IOT; OM

Once again the simultaneous benefit of feeling better within one's self and the fact that the patient felt more integrated and accepted into society is emphasised as pertinent to long-term recovery. Progression health wise and through harm reduction was pertinent to the whole qualitative sample, aside from the smaller sample of clinic closures.

9.10. Improved housing

Patients across all typologies identified improvements to their housing situation, and a sense of pride in creating a nice home. Some patients highlighted that their housing was stable prior to IOT and, for a number of patients, improvements occurred during IOT. Patients also highlighted the fact that they had maintained stable housing long-term, that housing remained stable at the time of interview.

> "My housing situation's great. I've been in the same place for about eight years now and that's the longest I've been in one place in my entire life." – Fay (P10); long-term SIH; OM

> "A lot of the chaos was taken out of my life and the need to generate money. Once you take that away and you can focus and focus on your house." – Tom (P9); positive discharge; SIH

As well as acquiring stable accommodation, several patients highlighted the ability to create a nice home. Creating a nice home applied to both positive and negative dischargers only.

> "Oh I've got a lovely flat and I'm really proud of it because the money...I spent on heroin I robbed but I save money up, if I want something I save it up. Like I've always wanted a plasma television and I saved up for over a year." – Nicholas (P14); positive discharge; SIH

However, in context, improvements to housing did not apply across the entire qualitative sample; with some patients highlighting current housing difficulties – illustrated and discussed later in the chapter.

9.11. Achieving and maintaining stability

An overall theme, and one which ran through all interviews and sections of the schedule was stability. This theme was prominent and predominantly contains sub-themes that have been captured elsewhere in the analysis. Stability was comprised of improvements to many areas of patients' lives, such as family and relationships, reintegration and moving away from the drugs subculture, health, housing, illicit use and abstinence, harm reduction, cognitions and emotions; and general and specific mentions of stability (which were explicitly reported by almost half the sample in this context). For some patients stability involved having a nice home, with household appliances, and the ability to look after a pet.

> "*And I've got everything you need in a flat, I've got fridge, freeze…freezer, cooker, washing machine, everything. Carpets on the floor, the whole, everything, sofas, settee, beds, pans, der der der, I've got all of it and I went in that flat with nothing, absolutely nothing. As I said I've got four dogs that are my babies and I wouldn't…I wouldn't even have a dog when I was chaotic because I wouldn't look after it.*" - Ron (P27); long-term IOT; SIM

As is indicated patients were keen to demonstrate their progress and current stability, indicating a greater sense of worth, pride, purpose and long-standing belief in IOT for recovery.

> "*It's given me a bit of stability…Yeah my life is a lot more organised now. I'm not in debt, I'm in front of everything not by a lot, my rent, poll tax, gas, electric, I'm in front of all of that so makes me more comfortable. In the respect of it like calming everything down, it's like take a deep breath and I'm in a lot better situation now than I was then. I mean I was just about hanging on to my flat with the rent and all that and gas, electric, it was like juggling, I'd be on emergency one week; it's not like that now.*" - Lee (P36); long-term IOT; SIH

Once again it appears that a course of IOT was beneficial to help stabilise patients by interrupting and reducing the chaos and instability central to their lives prior to IOT.

"*I feel it's one of the best things I've ever done. Do you know what I mean? In so many ways. It's made my life more stable.*" - Patrick (P39); long-term IOT; OM

A general mention of the achievement of stability was prominent across all typologies and treatment groups.

9.12. Reflective awareness of recovery

It was clear that a self-reflective mechanism was present through patients' narratives of their journey through recovery. Patients highlighted relevant psychological processes, such as the importance of self-belief and the impact of judgement from others.

"*Well, I'm pretty straight with people, and I do tell people, even if I've only just met 'em, you know, and if they say, 'Oh, what are you up to?' 'I'm just going up for my injection.' 'Oh, what's that then?' And then I'll just say, it doesn't bother me, you know. 'I used to be a heroin addict and now I'm in treatment and I've been in treatment for however long.' And they say, 'Well done,' or they'll say it in a way where they're looking down their nose. 'Oh, well done,' but you know the sarcasm, you know, but I don't let it bother me. Water off a duck's back.*" - Fran (ID 13), long-term IOT; SIM

"*And I think when people think it's wrong to give this treatment it says to me that they think that heroin must be the best drug in the world, well they must think that addicts are just so shit or humanity is just such a horrible thing that you really think that somebody is.*" - Ellie (ID 22), positive discharge; SIH

"*But it's like everything, it will only work if you want it to, won't it?*" - Harry (ID 8), positive discharge; SIM

Only a few patients spoke about the importance of self-belief and self-esteem (and both were positive dischargers; SIH and SIM treatment groups), however a greater number of patients spoke about the impact of judgement from others, and more commonly the impact of acceptance by friends and loved ones. The latter was highlighted by positive, negative and long-term dischargers in equal measure, but not by the clinic closures – this theme spanned all treatment groups, and in particular those originally assigned to SIM. Patients held clear perceptions and reflections about

their own progress through treatment, with many patients citing that they felt happy or pleased with their progress, and a smaller percentage highlighting that they wished progress had been quicker or that they had regrets about decisions they made during their treatment journey.

> "*I think personally I done really well whilst being on it. I had little slips here and there and I was warned and you know, but I think that went for a lot of people but I also learnt from it. I did respect it, I did appreciate, I didn't want to be thrown off, and I stressed that to them, so all in all it was a positive experience for me and I did use it that way. As I say, I think I done really well because even though I had slips and relapses, I'd like to always bear in mind that it has been a success and that even though I failed in a lot of other tasks trying to get my life together and clean up but I could actually say that has been a success story for me and I am glad of joining it, no regrets.*" - Harry (ID 8), positive discharge; SIM

> "*I've come on massively just even in things like self-esteem. My mental health's better, my physical health's better, my relationships with my family are massively better than they were. I mean, they're talking to me, which before I hadn't seen most of them for going on twenty years.*" - Fay (ID 10), long-term IOT; OM

The fact that family relationships were in some cases so drastically improved seemed to validate patients' trajectories, and contributed to a more positive self-regard. This illustrates the two-way and multi-faceted nature of factors contributing to progressive recovery. There were a high number of positive dischargers within this theme, as well as those in long-term IOT. Less prominent but still present were negative dischargers, however there were no positive comments about progress from the clinic closures. The theme spanned equally across all treatment groups.

A number of patients cited perceived regrets about the decisions they made during their course of treatment, for example: staying in IOT for too long; coming off IOT completely; reducing (dosage) too quickly; and increasing (dosage) too high.

> "*I don't think I was ready to do it* [leave IOT]*, to be honest. I should have carried on with the good support that I had here and... Because I walked out of rehab after nine days and ended up on the street and lost my flat so I ended up in a bigger mess than before. I was quite stable, I had a flat, I was here at*

RIOTT, I was doing really well, but then things just went downhill after I left." - Stacy (ID 5), positive discharge; SIM

Illustrated again later, the above quote reveals the detrimental effect of leaving IOT prematurely, and in this case, despite the patient having made the decision to exit IOT, voluntarily, with a clear after-care plan. The need for ongoing therapeutic support – even when patients are detoxed from maintenance medication - is perhaps illustrated. It is also interesting that this patient received SIM treatment only, and perhaps highlights again the benefit of the holistic nature of the support gained from being in the regimen. Positive dischargers were dominant voices in terms of citing regrets over decisions made, with some, but fewer, negative dischargers. There was an even split of those assigned to SIM and SIH, with one assigned to OM. There were no long-term IOTs within the regrets sub-theme.

A cross-cutting sub-theme was the idea that whilst on the one hand IOT provided space to stabilise and make changes; on the other hand stability took time and patience, and was not immediate.

"*Like I said, it gave me time to straighten myself out, you know, it did give me that time. I can't speak badly of RIOTT, you know, because it gave me time to sort my life out a little bit, you know.*" - Jason (ID 26), negative discharge; OM

"*I think if I tried to rush it, rush the whole programme I don't think it would work for me because I was allowed to do it at my own pace and I was allowed to set my own goals, I know it doesn't work say for everybody, well it isn't the same for everybody; you know, they have to have goals set for them sometimes to achieve anything you know.*" - Jacob (ID 4), negative discharge (other); SIM

The above quote links to – and fell under – a theme from the previous chapter also; 'Person-centred care and autonomy over clinical decision-making'. That stability took time was cited by negative dischargers and long-term IOTs. That IOT provided psychological space to stabilise and make changes was mentioned predominantly by positive dischargers, additionally, several long-term IOTs and a balanced combination of SIH and SIM groups – with only one OM – however, it was not cited by any clinic closures.

9.13. Feeling grateful

Linked to the psychological process of change, as well as a reflective awareness of recovery, was an expression of gratitude by patients. This applied to a smaller proportion of the sample. Patients expressed gratitude for the fact that the damage caused by heroin was limited, with an acknowledgement of the potential further harm they could have suffered, had IOT not become available.

> "*I consider myself quite lucky that what I've got is limited to a little bit of visual damage that you can see as opposed to an open festering wound that some people have got, you know.*" - Shane (P21), long-term IOT; SIM

> "*I've got quite a lot of joint pain and I've got COPD and asthma, so my health isn't great but it's better than it would have been if I'd kept using, so I mean you can't expect to lead the life I have for the last 30 years and be sort of fully healthy by the end of it.*" - Fay (P10), long-term IOT; OM

The above quote also demonstrates some level of acceptance of the situation that culminated for them. A large number of patients were grateful for IOT on the basis that it saved their life.

> "*But I do feel like RIOTT is one of the things that saved my life because I was injecting massively, doing a huge amount of heroin.*" – Stacy (P5), positive discharge; SIM

Linked to the findings in the last chapter, the way that the patient conceived IOT, had an impact on how well the patient engaged with and adhered to IOT. Patients also illustrated gratitude in the context of the system of care they were involved with through IOT, and gratitude for this support. Again this illustrates narratives associated with psychological recovery, which was another element of efficacy.

> "*You've got people who are interested in what you've got to talk about. And it's the fact they engage with you like an actual human being and it just felt like they were, it wasn't like going into a clinic and being administered, it was like we were a community of people who everybody cared about each other, you respect them because they're here 365 days a year.*" - Ellie (P22), positive discharge; SIH

This quote illustrates something fascinating about the nature of the relationship between patient and staff and how this links to psychological recovery – 'you respect

them because they're here 365 days a year'. Once again, gratitude appears to be implicated in engagement, sense of self-worth, and thereby overall recovery. This is highlighted again below.

> "*I've had interferon treatment on my liver, I don't know whether it's worked or not, but psychologically it's helped me because they might care a little bit.*" - Oliver (P16), long-term IOT; SIH

In the case of the above patient it was clear (and also within an earlier quote – as illustrated above) that his interactions with, and perceptions of, those administering his care were highly relevant psychological processes involved in perceived efficacy and recovery. Gratitude also links back to a reflective awareness of recovery – as outlined in experience of IOT – additionally it demonstrates the narratives involved in psychological recovery, and was a component of what made the experience of IOT so impactful for these patients. Gratitude was mainly declared by those in long-term IOT, with one positive discharger also. It was clear that efficacy was a multi-faceted theme, encompassing reduced craving; reduction/cessation of illicit use; and psychological processes of change.

9.14. Protective factors

Gains which were made as a consequence of being in IOT became protective factors to patients remaining in IOT and not using illicit heroin over the long-term. These protective factors included dependents, pets, service user involvement, pursuit of hobbies and passions, and family support and care. IOT itself was also seen as a protective factor, for example, in regards to health and preventing further damage. Other factors which protected patients from relapse during their recovery were negative experiences with street use, a lack of veins for illicit use (i.e., through IOT patients could administer heroin intramuscularly), the perceived lack of effect of illicit drug use, and perceived reduced quality of illicit drugs. These factors are not necessarily directly consequential of IOT, but are external factors associated with recovery, and which protected patients from further illicit use. It was important to highlight both factors which arose as a direct consequence of being in IOT, and factors which arose naturally through the long-term heroin use and recovery trajectory.

9.14.1. Service-user involvement

As previously outlined in the experience of IOT chapter, some patients took on service-user representative roles and these roles became protective factors, both to the maintenance of stability, and against relapse.

> "*Yeah, because I mean I started doing service user involvement stuff around that time as well, so it gave me something else to do, something else to focus on, I suppose. … I mean, I did the coffee morning there, so I suppose, for me, it was more, maybe, more of a professional thing. …I started getting to know people through the service user involvement stuff, really. So, I suppose that's where I got my support, through the service user involvement work.*" - Pam (P19); positive discharge; SIH

The sense of empowerment that service user involvement provided was also highlighted. The following quote also links back to dissatisfaction with previous treatment (pre-IOT), and the sense that IOT was a new and hopeful concept, as previously highlighted in earlier chapters. Those who cited service user involvement and being service user representatives as pertinent to their recovery were all positive dischargers and long-term IOTs. Cause and effect is obviously not known, but this activity appeared to serve as a protective factor for respective patients.

> "*I didn't see it as being any saviour but I thought that if I joined in I might be able to change it from within. Because this was heading in the right direction. And they might, if not listen to us, at least tack a course that stayed away from the pain and squalor of the treatment that was already available.*" - Oliver (P16); long-term SIH

Additionally, service user involvement led to new projects and passions for some patients, which are part of the overall picture of recovery.

> "*Absolutely because in a way, you know, everything sort of slotted in. One thing led to another and it was like a natural thing. It was like a natural process and I found my niche.*" - Elena (P37); positive discharge; SIM

The motivation to affect the direction and future for policy and practice on OST became a protective factor for those with service user involvement responsibilities. This indicated that empowerment and service user involvement was implicated in the success of IOT in this instance.

9.14.2. Caring for pets

Pet ownership was made possible through the stability that IOT offered patients who wished – and some had illustrated this as a goal at treatment outset - to own pets. Then through the routine and stability provided by owning a pet, and the fact that another creature now depended on patients' stability, pet ownership became a protective factor. This applied to a number of patients within the qualitative sample, including positive and negative dischargers and long-term IOTs.

> "*Yeah, and it sort of…every time I think about using I think well if you start all that again they're gonna suffer, well they wouldn't suffer 'cos I'd get rid of them, I'd find them good homes to go to but…*" - Ron (P27); long-term IOT; SIM

9.14.3. Hobbies and passions

A few patients highlighted the ability to pursue hobbies and passions again. These patients were all positive dischargers.

> "*The first year we started both of us, Andy* [another IOT patient, and Ellie's partner] *came out of hospital and he looked on, I got him a copy of Floodlight and took it up there, the next time I came to visit him. We were looking at evening courses and we did some certificate in music technology at adult education centre in Westminster so we'd go Tuesday evening and it gave us stuff to do and Andy got money from charities so he got a computer, I got my equipment from Dorset. So we got the studio back up so we started doing music again.*" - Ellie (P22); positive discharge; SIH

In other sections some patients highlighted some degree of struggle with courses that they were completing, however, overall they seemed to contribute to the overall picture of protection from relapse.

9.14.4. Relationships with family and dependents

In some cases IOT was a factor in patients reconnecting with dependents. The maintenance of these relationships then became protective factors.

"*My youngest child, she had already been in care. Well, she hadn't been in care that long when I started on RIOTT, but it took quite a while for me to – by the time I actually re-established contact, it was – well, put it this way – it was obvious then, that by the time I would be in any, sort of, situation to get her back, it would be pretty much, she would have been away from me for years, so it was, sort of, pretty much clear then that she was never gonna come back and live with me, even my youngest. But I did re-establish contact with her, yeah, which was in itself, I suppose, yeah, really important for me, yeah.*" - Pam (P19); positive discharge; SIH

Children and grandchildren were also highlighted by patients as the specific reason why they reduced or ceased illicit use. Dependents as protective factors applied to long-term IOTs and negative dischargers. Over time, and as they developed, the commitment to these relationships became protective factors against relapse. These connections and commitments were made possible through the stability offered during IOT.

"*I love my son, he's great, I'd give up methadone tomorrow just to bring up my son…I wasn't injecting when he was born, when he was conceived, I'd been clean from needles for just over five years now.*" - Trevor (P24); negative discharge; OM

"*I live with my partner and my daughter's got her own house and we've got a grandson who's one, so that's why I've been trying to knock it on the head completely.*" - Richard (P34); negative discharge; SIM

It may be the case that the above situation could not have arisen if the patient was still involved in the chaotic situation prior to referral to IOT.

9.14.5. Reduced quality of illicit drugs

Similarly to family relationships – in the sense that cause and effect was not direct, yet still implicated in the overall picture of recovery - the fact that patients perceived that street drugs had diminished in quality at the time patients were in IOT, was cited as a pertinent factor to cessation of use of illicit drugs by a number of patients. This was interesting to uncover.

"*What happened is…by coincidence when I started this treatment the street drugs quality went through the floor. It turned to crap. And by coincidence I*

had already started my RIOTT treatment. So it made it easy… easier to knock crack on the head; heroin I knew I could stop if I had a substitute." - Shane (P21); long-term SIH; SIM

The perceived diminished quality of illicit heroin was cited as one aspect of the overall picture that illustrated when and why patients ceased illicit use. Reflections on this period were interesting, and sometimes also included the fact that IOT reduced craving for illicit opiates; the combination of the two factors led to a natural progression to cessation of illicit use. Perceived reduced quality of illicit drugs as part of the picture of what led to cessation of use of illicit drugs was cited by positive and negative dischargers, and long-term IOTs.

"*Well it's not that I decided like, consciously, it just … it was a natural progression I think, you know, it was like I can't be bothered, I don't want it, I don't need it. Because even if I used I couldn't have felt it. Because I'd already had my dose and once your receptors are busy, you know, and also because of the quality of what we were being provided there, any street rubbish wouldn't have touched me.*" - Elena (P21); positive discharge; SIM

Overall, IOT provided space for important changes to take place, and for other activities to be pursued and enjoyed; it appears that these activities sometimes became protective factors deterring patients from returning to illicit use and the associated lifestyle and instability. That IOT is delivered in a holistic programme of recovery, and is long-term, was again illustrated as a key point.

Chapter Summary and Discussion

The impact of IOT was a strong focus of the experience of IOT, across the qualitative sample and amongst all typologies. Illicit use was a prominent theme, and whilst at first glance may have seemed obvious, the facets of it were quite detailed and complex. For some patients reduced or ceased illicit drug use was maintained long-term (up until the qualitative interview) and for some, cessation of illicit drug use was achieved as soon as they began IOT. In contrast, a period of adjustment to the IOT process appeared to be key to some patients, as was the importance of finding the right dose. The evolving nature of patients' perceptions of their recovery was illustrated, and overall IOT provided means by which the unhealthy cycle of illicit heroin use could be interrupted. Related to this concept were narratives on achievement of abstinence-based recovery, which were outlined separately. Cessation of use of illicit drugs applied across the whole sample.

The next area of gain was improved quality of life. This encompassed areas of expansion (e.g., completing courses and education) and areas of cessation (for example, leaving the drug subculture). Areas of improved quality of life involved psychological recovery; improved family and relationships; starting and continuing education and courses; financial stability; harm reduction; staying out of prison; and improvements to both health and housing. Whilst not drawn out directly through a qualitative theme, is useful to keep in mind differences across regional locations when analysing the improvements to quality of life theme. The three geographical locations are very different socio-economically – particularly when contrasting opportunities that might have been available to patients in central and south London, to those in the small market town Darlington. Indeed, one patient in Darlington commented to me that Darlington was 'rough', during interviewing. It is particularly important to also bear in mind that Darlington was the clinic that had closed earlier than other clinics, and in several cases participants were aware that there were other clinics still operating in other parts of the country; for example, this was commented on at the end of interviewing, during small talk between one participant and interviewer. Whilst not overtly communicated, this may have an effect on patients' motivation and hope for the future.

Patients made clear that they believed IOT had saved their life. Friends and peer groups either noticed differences or these groups changed. Patients demonstrated a reflective awareness of the harms that had been caused by heroin. Some of the sub-themes in the quality of life theme were cross-cutting themes to the later theme;

protective factors. It appeared that IOT provided enough stability for patients to engage in areas and relationships which improved their quality of life, and these activities and relationships then served as protective factors to relapse.

Psychological recovery was clear and key. Patients outlined that they were committed to the IOT programme and staff could see this. Patients outlined that they felt positive and had a (new) sense of importance through the engagement with IOT, and perhaps the requirement for daily attendance. It appeared that engaging with the clinic, staff, keyworkers and other patients potentially led to a feeling of self-worth. This linked to following subsequent themes; leaving the drug subculture and developing a non-using identity. Patients engaged with education and courses and relationships improved. Within this theme, and all themes within this section, it was clear that this arose as a consequence of IOT, and also served as a protective factor from relapse.

Patients undertook volunteering activities and formed new peer groups. Patients described that they did not wish to go back to the old life. Patients chose to lead a more isolated life if this was perceived as a factor pertinent to relapse prevention. From a health perspective gains were both holistic (e.g., desired weight loss) or directly connected to changes to illicit use of drugs (e.g., further vein damage was prevented). Patients outlined feeling more stable. Sometimes this was a general feeling, and sometimes it connected to something specific such as stability derived from the creation of a nice home that patients were proud of. Patients described again that stability took time. That stability took time was illustrated by clinic closures and long-term IOTs only, and that IOT provided space for recovery and changes, by positive dischargers and long-term IOTs.

Overall IOT seemed to contribute to the development of very reflective patients with a lot of insight in to their psyches and psychological recovery. Patients described the role of individual motivation, as well as the impact of judgement from other people could have on them. Patients described the resilience they had created in response to this. Acceptance from others was a strong theme and linked to a previous theme around family support, both of which were pertinent factors to recovery, both as a consequence and maintainer of stability. Patients outlined that they respected the treatment programme, and some patients described that they had regrets about leaving IOT when they did. Feeling grateful was a connected theme that arose from narratives. Patients were relieved and grateful that damage caused was limited, and expressed gratitude for health care professionals and systems. An ongoing theme was reflection on how well the patient perceived they had done in IOT.

Throughout the interviews areas of importance arose as both a consequence of IOT and (later functioned as) an ongoing protective factor. These included service-user involvement responsibilities, the responsibility of caring for pets and dependents, and undertaking hobbies and passions. Interestingly, the reduced quality of illicit heroin was also cited as a protective factor from illicit heroin use. It may well be that patients were more attuned to the latter both as a consequence of living a more stable life, and obtaining clinically pure heroin. Both of which these factors may have provided more attention to the fact that the quality of illicit heroin had diminished. Overall the impact of IOT was significant, and for all patients interviewed, some degree of recovery was achieved.

Next chapter 10 outlines patients' conception of Recovery

Chapter 10 – Findings: Recovery

The following chapter outlines patients' conceptions of recovery following IOT.

The concept of recovery in addictions is a topical discussion. Recovery is introduced and explored in the introduction. Laudet (2007) describes that recovery goes well beyond simply abstinence; it is experienced as an ongoing process of growth, self-development, and a reclaiming of identity. It may well be that the individual remains in recovery through the life-course. Recovery in the context of IOT is less explored and is important. Patient's' steps following IOT, and where this treatment fits in to the individual's overall journey of recovery is an ongoing debate and warrants further exploration. Patients are unlikely to be prescribed IOT for life, particularly in light of recent (March 2015) UK IOT clinic closures, therefore the recovery forecast following this treatment is important. It is important to gauge patients' perspectives on their recovery trajectory, and what patients perceive IOT's role within this is.

One of the overall aims of the thesis was to examine patients' concept of recovery in the context of IOT. The next chapter specifically (and directly) examines patients' own views about recovery in the context of this unique treatment. Patients were specifically asked about their views on recovery, and their views on recovery in the context of IOT. Responses match aspects outlined during narratives on experience and impact, however specific narratives in response to being directly asked about recovery in this context are also detailed. It is useful to view the narratives in the context of patients' goals; both at treatment outset, and goals for the future, which are outlined in the next chapter.

Following interviewing and analysis, perspectives on recovery amongst those who had undertaken IOT fell into discrete themes. Overall, there was a clear vision of individualised recovery; (reaching a state of) stability and functioning; health and harm reduction; employment and financial stability; (for some) abstinence-based recovery; cessation of illicit opiates; ongoing maintenance treatment; ongoing support; psychological adjustment (including recovering self-esteem); reintegration; making progress; protective factors and activities; and barriers to recovery. Barriers to recovery encompassed instability; dissatisfaction with treatment; health issues; and continued illicit use. The final two themes – protective factors and activities and barriers to recovery emerged during the course of interviews, as opposed to in direct response to being asked about conceptions of recovery in an IOT context – which was the case for the other themes within this chapter.

Table 45. ***Outline of 'Recovery' chapter themes and sub-themes***

Reference	Theme	Sub-theme
10.1.	Individualised recovery	
10.2.	Stability and functioning	
10.3.	Health and harm-reduction	
10.4.	Employment and financial stability	
10.5.	Abstinence-based recovery	
10.6.	Cessation of use of illicit opiates	
10.7.	Ongoing maintenance treatment	
10.8.	Ongoing support	
10.9.	Psychological adjustment	
10.9.1		Recovering self-esteem
10.10.	Reintegration	
10.11.	Making progress in treatment	
10.12.	Protective factors and activities	
10.13.	Barriers to recovery	
10.13.1.		Instability
10.13.2.		Dissatisfaction with treatment
10.13.3.		Health issues
10.13.4.		Continued use of illicit heroin

10.1. Individualised recovery

On a conceptual level, a number of patients made the point that the recovery journey is individualised, therefore to project a goal or vision for the future very much depended upon on what point the individual was at in the recovery trajectory or journey. Therefore, the case note reviews and typologies provide a useful, additional reference point to the following section, so that patients' perceptions can be viewed in light of individual and group treatment trajectory. The individualised nature of treatment was emphasised by a number of patients, and this concept is illustrated and discussed.

> "*You need to tailor it to suit individuals and I believe that people should be profiled when they enter, re-profiled six months later, and then go from there to see what's going to go.*" - Oliver (P16); long-term IOT; SIH

Patients underwent reviews with their keyworker on a regular basis, and it is interesting that some patients commented on the need for a regular review. That recovery was personal and individual was very much emphasised.

> "*Well recovery in terms of that approach, well I think it depends on the individual, you know. …It's very personal, absolutely. You can't stick a label. You know, recovery, I think to me that recovery means a positive progression for each person's levels and standards. You know, you just can't generalise. It's a very personal thing. You can't put standards on it.*" - Elena (P37); positive discharge; SIM

> "*Well, for me, recovery is very much a personal thing. You can't force a type of recovery on one person just because it worked for another person.*" – Fay (P10); long-term IOT; OM

Here the need for a personal post-IOT care-plan is emphasised. This was often written into a patient's IOT care plan, however is not always possible in practice, for example, when patients drop out of treatment without notice; go to prison; go in to hospital; or in the case of clinic closures, where ultimately the majority of patients were transferred back to oral methadone.

At the time of interviewing in Brighton, commissioning changes meant that original IOT patients were allocated 18 more months of IOT only, and new patients to IOT (i.e., non-RIOTT and therefore not interviewed) were given an 18-month total IOT care-plan, and this was made clear to patients entering IOT from this point onwards.

When mentioned, patients spoken about this new regime unfavourably, the necessity for the individuality of treatment was highlighted again in this particular context.

> "*I think they should think about the powers that be into turning this 18-month thing into like tailored to people's individual needs. And just, you know, you can't put everyone in the same box, because everyone's different.*" - Josh (P41); long-term IOT; SIH

Once again this suggests that patients felt that treatment duration could only be decided on an individual basis. Across the sample – and as highlighted in earlier sections – patients had a tendency to compare their progress to that of other patients, and this should also be taken in to account and incorporated in to individual treatment care plans.

> "*I think that if somebody progresses or really shows signs of stability, you know, it depends on where they're coming from, you know, it depends on their journey, you know, if they were very chaotic and then they managed to achieve a degree of stability at least, you know, get their housing sorted out, you know, and get themselves clean and get themselves, you know, fed and watered and washed and stuff, you know; that is recovery.*" - Elena (P37); positive discharge; SIM

That recovery was felt to be individualised and personal was expressed across positive dischargers and long-term IOTs only.

10.2. Stability and functioning

Almost half the sample cited stability and functioning as a key component of what recovery meant to them. Within this, around a quarter of patients specifically cited the desire to live 'a normal life' or to continue as they were currently. These comments mirrored goals patients had on entering treatment, as well as the reported impact and effect of IOT, indicating an overall sense that this goal had been both fulfilled through IOT, and remained what the patient was striving for within their ongoing recovery.

> "*Normality, that's what recovery to me is, normality - what you do, what that person does.*" - Charlie (P3); positive discharge; SIH

Here the patient seems to be expressing the desire to fit in to 'normal' society again; the desire to no longer be, or be seen as, an outsider.

> "*It's a case of trying to lead a normal life, whatever normal is, you know. For people like me I don't think I'm ever gonna be normal, but at least I can have a better quality of life.*" - Fran (P13); long-term IOT; SIM

There was often a lot of energy and passion around recovery and what this meant for patients, including hopes and goals that patients wished to explore – this energy and passion is reflected in some of the quotes illustrated here.

> "*It means taking control of your life again, and taking control… moving forward. Achieving things, doing things that you wanted to do when you were 16, 18 years old and you missed your chance; to go to uni, say in my case, or for some of the other people that are not so academic, they missed the chance of a job that they'd really like to do, or just even have a normal home life. …That to me is recovery, is when you start having… you have proper friends; you don't just have associates that you hang around with because they do drugs and you do drugs and you're in the mix that way, so you're forced together. It's to have normal relationships with people and normal friendships where it isn't all backstabbing and based on crime or based on being off your head. A normal existence.*" - Tom (P9); positive discharge; SIH

Once again the desire to be reintegrated in to society is synonymous with the idea of a 'normal' life. Socialising with non-drug users is also emphasised. The above quote illustrates another commonly cited sub-theme within the recovery theme – recovery for life – the idea that recovery must include advancement in areas of life outside of drug use and cessation, such as, housing, employment, family, financially, peer groups, and lifestyle. Gaining control back over the life previously lost to drugs is emphasised. Having control in recovery was a prominent cross-cutting meta-theme – for example, having perceived control over clinical decision-making within IOT. That this was such a strong feature of treatment and recovery is interesting, and perhaps particularly pertinent to a sample of people who had spent so many years completely controlled by a drug.

> "*But recovery I see that as a functional life and most people think detox, abstinence, functional life, whereas this programme is: life starts because you let it, because you're not busy being a drug addict - and life gets more interesting because it is, and the drug more boring because it is. And so then*

you go to functionality and then your sense of who you are changes and the drug becomes less important." - Ellie (P22); positive discharge; SIH

Here functioning is embroiled within wider aspects of recovery, and the previously touched upon consequences of IOT, such as restoration of the non-drug using identity, and the role of engagement with life and wider society. The patient makes reference to pertinent aspects of the complete trajectory of recovery linking functioning to engagement, identity and purpose; and suggests that this is all possible due to the stability of the programme and the cessation of chaos. It is clear that the programme allowed the patient to access a vision of what recovery meant to her.

In addition to stability and functioning several patients asserted that for them recovery was what they were doing at the present moment; they were currently recovering. Several patients said that they would like to continue as they were currently, in terms of current treatment received – this applied to those who remained in IOT at the time of interview.

"*What recovery means to me is what I'm doing now.*" - Reg (P12); long-term IOT; OM

"*I'm going to carry on doing what I'm doing, even if they stop the treatment tomorrow, I will carry on doing what I am doing.*" - Oliver (P16); long-term IOT; SIH

The presence of this sub-theme indicated that some patients had reached a point that they were satisfied with within their recovery journey and current situation. This sub-theme only applied to those in long-term IOT however. One other theme outlined by a number of patients was having the psychological headspace to engage with recovery. In previous sections patients also saw this as part of the impact of IOT; something that IOT allowed for. This was illustrated predominantly by positive dischargers, and one long-term IOT.

Overall, stability and functioning in their various guises and as features of recovery had high presence across the dataset and applied to all typologies and treatment groups.

10.3. Health and harm reduction

Connected to the overall concept of stability was a vision of good health and harm reduction.

> "*Recovery, to me, would just mean to get rid of hepatitis, hepatitis C, to go through the fibroscan and pegylated interferon without going bald.*" - Luke (P18); negative discharge; OM

The following quote is by somebody who was abstinent from both street drugs and treatment drugs at the time of interview. This provided support to the idea outlined earlier, that recovery is individualised, and that different people will have different ideas and needs, based on where on the trajectory they are at that time. Patients may have been better able to begin formulating goals for other areas of life once illicit use completely ceased.

> "*You are recovering from whatever ailments, whatever you've, sort of, like, put yourself, mentally and physically, through, and you want to change it.*" - Jason (P26); negative discharge; OM

Linked to this was the patients' concept that harm reduction was a sufficient goal or aspiration. This may be linked to remaining in IOT long-term; that patients conceived IOT as a mechanism by which harm could be reduced.

> "*My idea was always harm reduction. Don't kill yourself, don't kill other people.*" - Shane (P21); long-term SIH; SIM

The goal of health and harm reduction applied mainly to negative dischargers – perhaps suggesting some anxiety around the area of health for this particular sub-sample – and applied to one positive discharger also. Other less prominent aspects of stability and functioning (as indicators of recovery) outlined by patients included: financial stability and employment; housing stability; having more time available - and relatedly - headspace available for recovery; no longer needing to commit crime; an improvement to family and romantic relationships; and when the individual stops thinking about illicit drugs. That the patient no longer thinks about drugs, and perceives this as an indicator or recovery, was also specified in the above comments around returning to work, signifying the vision and hope for a complete life change. This complete life change was introduced by another patient who stated at the beginning of his interview that he had turned his 'life around 365 degrees', as a

consequence of IOT; a patient who was also in stable employment at the time of interview (Reg; P12; long-term IOT; OM).

10.4. Employment and financial stability

Several patients mentioned work as a feature of their recovery vision, sometimes this was directly mentioned – such as the goal to find a job - and other times work was a mechanism by which patients connected to structure, routine and a reason for living.

> "*My idea of recovery includes work.*" – Shane (P21); long-term IOT; SIM

Employment and financial stability were significant to the concept of recovery for both those in long-term IOT and positive dischargers.

> "*Having something to get up in the morning…the first thing that comes to mind: 'What am I gonna do? What's happening at work and how am I gonna achieve that? Am I gonna do that?*'" – Charlie (P3); positive discharge; SIH

The above quote indicates the pertinence of the shift in thinking about something other than drugs when one wakes up in the morning – something that the patient is motivated and interested in. This was mentioned by several patients in the context of what recovery meant to them. Altering one's mind-set seemed to be key to patients' conception here.

> "*Recovery's beating the drugs, right, and never ever going back; that is when you're recovered. If you beat it and you're still thinking about it, you're not recovered as far as I'm concerned.*" Scott (P25); long-term IOT; OM

10.5. Abstinence-based recovery

Whilst recovery was viewed as multifaceted (and individual) patients did commonly highlight their relationship with, and aspirations for, illicit heroin use, within their concept of recovery following IOT. Across this theme sub-themes were varied. For some the conception of recovery was complete abstinence, including from maintenance treatment.

"*Well, I suppose it would be the eventual not need for any opiates.*" - Sammy (P11); long-term SIH; SIM

Being completely detoxed from all opiates as the definition of recovery had high emphasis across all typologies. Some patients also highlighted the physical addiction to opiates, including OST, and the desire to feel well without having to take medication. In this context the frustration around the cycle of dependence and associated physical discomfort was highlighted, with strong resolve to make a change on this basis.

"*For me, the goal is just abstinence, I just want to be able to get up in the morning and not think 'Oh three hours until I feel well'. I want to feel well the minute I wake up. And get home from work and just don't want to use heroin any more, I've had enough.*" Gerry (P20); long-term IOT; SIH

"*But recovery would be abstinence and staying clean and having a normal life again, do you know what I mean?*" - Patrick (P39); long-term SIH; OM

Within the context of abstinence as recovery, some emphasised (as before) the critical point being when the user stops thinking about heroin. Again the lack of power or control over dependence on opiates – illicit or prescribed – was highlighted – with recovery viewed as a re-gaining of this power and control.

"*But the recovery is just basically being able to live your own life to the extent that you can, yeah, without the need for, I mean without being kind of constantly dependent on something that has power over you, that you are powerless over, if you see what I mean.*" - Andy (P23); positive discharge; OM

There was also quite a high level of ambivalence towards the concept of abstinence expressed by the qualitative sample. Ambivalence sometimes arose as a consequence of the patient finding recovery a difficult journey, and viewing the heroin using lifestyle more positively, since this was the way they had habitually masked reality, their emotions, and problems. In this case the awareness and reflection that arose through the stability of IOT, had caused the patient pain. This is a really useful finding, and provides further weight to the need for ongoing therapeutic support through both IOT and OST and beyond.

"*I'd love to be abstinent. I do have a spliff now and again, I'm still having a sniff, I'm still having a pipe now and again, but it's not... I'm waiting for it all to collapse one day and I'll go, 'Well, fuck it'. I might just go through it again and*

go off my nut for a little while. It's coming, I know it's coming. I frighten myself. There's two 'me's' up here. I try to get on – do you know what I mean? I was happier as a junkie than what I was trying to be – dealing with reality and being... The way life is treating me with the benefits and all that now. It's hard. …One angel and one devil really." - Jack (P2); positive discharge; SIH

The above quote illustrates the pain and turmoil that can arise during recovery. The patient potentially applies the Rule Violation Effect, and all or nothing thinking, whereby he is expecting to fail, and thereby potentially legitimising relapse before it happens. The patient's ambivalence is illustrated, and the implication of psychological craving. The above quote also demonstrates well the synergic relationship of society's stresses and an individual's recovery, illustrating the pertinence of wider stresses present in patients' lives through their recovery. In this case the stress caused by welfare policy changes is a potential trigger or risk to relapse. Focussing on support and resilience in these wider areas of life is beneficial to recovery from entrenched addiction, within IOT and treatment generally, as well as more holistic (practical) support around housing and benefits. Ambivalence about abstinence arose within all typology groups. At first glance detox was viewed as the end point of the patient's IOT trajectory, and as with other forms of treatment, what the patient was working towards. However, as has been clearly demonstrated, support following a detox may be beneficial, if not vital, for ongoing abstinence.

[On detox:] *I could have it arranged. That's no worries. It's thinking – am I ready? I've been there twice. I've kept away from heroin for some years, dabbled, hit the drink and ended back in – still come out. Still on drink, so yeah, it's finding that – without anything, just being yourself.*" - Jack (P2); positive discharge; SIH

10.6. Cessation of use of illicit opiates

Sub-samples of patients focussed on being illicit drug free or completely abstinent; leaving IOT; ongoing maintenance (unspecified) treatment; and being maintenance treatment free. These themes applied across the sample, and were prominent. For some patients, not using illicitly was at the centre of recovery, and their primary goal.

"*Recovery is about – as long as I don't use on top of methadone, I suppose that will do me for now. So it's being clean for street drugs. From any street drugs, any crack.*" - Daniella (P1); negative discharge; SIM

"*I think it was the period of time of not using, because I didn't see that* [maintenance treatment] *as using, that was treatment.*" - Matthew (P17); negative discharge; SIM

Staying illicit drug free was cited by all typologies aside from clinic closures. This may be due to the limited number from this sample, or perhaps that this sample could not connect with this concept, since they were back on oral methadone treatment, with varying degrees of success at remaining abstinent from illicit drugs. A large proportion of patients highlighted exiting from IOT as their most pertinent aspiration for recovery. This was interesting, and contrasted with earlier, alternative perspectives on the desire for IOT for life. This may mean that patients did not always perceive they could ever fully recover under this definition, and yet they still applied it to their concept of recovery. With this in mind psycho-education on recovery and the potentially individualised nature of it could be useful within OST generally.

10.7. Ongoing maintenance treatment

For a proportion of patients, successful recovery involved ongoing maintenance treatment and this had relevance to all typologies. For some patients this was seen as both realistic and achievable, yet provided enough stability for them to be able to function within society.

"*I do very much believe in medically-assisted recovery because for someone like me that's really about as good as it gets. Because of my history, even if I came off all the opiates I would be suffering from really chronic pain but I would never be given adequate pain relief because I'll always be seen as drug seeking.*" - Fay (P10); long-term IOT; OM

By way of context the above patient was engaged in voluntary work and enrolled on a university degree programme at the time of interview.

"*My idea of recovery includes work but does not include having to stop taking the prescribed drugs.*" - Shane (P21); long-term IOT; SIM

Once again the above quote illustrates a realistic expectation of the realities of the recovery journey for the individual in question. That firstly, it requires effort and strength from the patient, and that in some cases recovery is only possible if it is medically-assisted, despite IOT. This is to reduce (and protect from) the chaos, instability, ill-health and pain, and other unhealthy dimensions of the drug using lifestyle.

> "*That doesn't mean you have to be abstinent, it just means you've got…found a treatment that gives you…helps you to be and function normal.*" - Ron (P27); long-term IOT; SIM

10.8. Ongoing support

A few patients cited receiving support from a treatment service; that engaging with support in and of itself was viewed as a component of what recovery was. In this situation it may be that the patient associates support with successful recovery, and periods without support as linked to the chaotic situation (e.g., pre-IOT). Where addiction appeared to be equated to loss of control and no support, recovery appeared to equate the regain of control and an ability to access support. The patients who reflected on the importance of support often offered a realistic evaluation of the recovery journey, and what it was that patients needed to recover – perhaps in view of previous unsupported attempts of the past. This also illustrates that ongoing support beyond IOT is also important. This arose in other sections of the interviews – for example instability in the final chapter on the 'Current situation and goals for the future'.

> "*Well, it's a real hard thing to be honest, especially when you've been an addict for so long. But it's massive and you need the support. You just need ongoing support; you really do and know what to do. Because you cannot do it on your own and you need, like, the people here because you can't do it on your own. I've tried it and it doesn't work.*" - Stacy (P5); positive discharge; SIM

In this context – with reference to recovery - the benefit of holistic and person-centred treatment is again highlighted.

"*To me recovery is the ability to engage properly with a service that is sensitive and flexible to my needs and will allow me to develop and progress in my own time, whilst getting support. Not having unrealistic goals but just allow myself to find my own feet again. Which, without pressure, you'd be surprised, it happens a lot faster than pushing people to do things that maybe they are not ready for, or coercion, or the punishment model.*" - Elena (P37); positive discharge; SIM

The two patients directly highlighting the need for ongoing support were both positive dischargers originally assigned to SIM treatment.

10.9. Psychological adjustment

Patients often highlighted psychological processes or states pertinent to their conception of recovery. Several patients highlighted changes to their sense of self, or self-esteem, as being an important component of recovery, and indicative of success. A few patients highlighted the benefit of psychological therapy within recovery, and one highlighted cognitive improvement as indicative of recovery. The mechanisms of change were identified, such as the direct desire to change and having an ability to form goals. Patients also highlighted psychological adjustment and again having the headspace to engage with recovery.

10.9.1. Recovering self-esteem

Self-esteem and its importance to the recovery journey arose at various points within the interviews. In the following quote the belief that those activities which contribute to improved self-esteem need to be encouraged was reflected by means of the patient's own experience. The patient highlights the need for activities to motivate a desire to stop using illicit drugs, which he links to increased self-esteem; and came from his experiences within his own recovery journey.

"*I believe, as well, a lot of people, it should be, we do it at work, with a support agreement, there should be parts of it that says you should have to go and do voluntary work; you have to go and do college; stuff like that. Because if you just come here, go home, come here, go home, you have no reason to stop*

using, you have no reason. Why do you wanna stop using, do you know what I mean, if you're just gonna stop using and still do the same stuff – nothing. You haven't even got the bonus of coming to get stoned; do you know what I mean? So if you've got nothing to do during the daytime then it ain't gonna work, and I'm a great believer, if you do something during the daytime, get your head into something, it's gonna work quicker and you're gonna feel better about yourself." - Charlie (P3); positive discharge; SIH

As illustrated in the above quote, the majority of references to self-esteem and an improved sense of self, came from the patients' individual recovery experience and were part of a multi-faceted journey of progress. Overall the trajectory appeared to be necessary for the patients to experience these processes and have the ability to reflect on them, and apply them to long-term goals and experiences.

"*I'd find achieving goals gives you self-esteem, because obviously when you're using all the time and you're relying on other people to maybe get gear for you or bring you money or whatever; it's chaotic again.*" - Tom (P9); positive discharge; SIH

The above quote illustrates the synergistic relationship between perceived locus of control and self-esteem within recovery through IOT – with perceived lack of control linking to chaos. One comment specifically focussed on self-esteem as a consequence of having been in IOT.

"*Was good for me self-esteem and I was picking myself up then and I was on like a high, natural high with life.*" - Rita (P29); negative discharge; SIM

Self-esteem as a component of what recovery meant to patients was applicable mainly to positive dischargers, with one negative discharger. Less prominent was the concept of an improvement to cognitive functioning. The quote illustrates a sense of hope, or perhaps even an idealised view of recovery and in this case, life without opiates. Additionally, the recognition that by being in maintenance treatment one is not fulfilling one's absolute potential, in the arenas of stability and well-being.

"*I'm hoping that when I come off my brain will be better, it's quite nice to be able to think well maybe I'm rubbish because I'm still under an opiate, maybe when I come off that then I'll be able to answer my maths questions in about five seconds, maybe I'll be able to do a Sudoku faster than Andy.*" - Ellie (P22); positive discharge; SIH

Earlier on in the analysis a few patients spoke about benefitting from the psychotherapy that was offered to some patients for a finite period as part of their recovery during IOT – in some patients' conception of recovery, undertaking psychotherapy was also something they envisaged as beneficial to their ongoing journey.

> "*Having psychological input. Just finding out why this happened to me. I have a fair idea and I would like to investigate that more.*" - Clara (P7); positive discharge; SIM

Psychotherapy was mentioned by two positive dischargers (both assigned to SIM). Interestingly psychological recovery, and the necessity of the appropriate type of support for this, was also contrasted with conventional substitution treatment.

> "*But I think the emphasis needs to be taken away from methadone, and more on the mental willingness to face life without heroin.*" - Oliver (P16); long-term IOT; SIH

Within these narratives were patients' views about effective recovery. This was further supported by other patients, and is corroborated by other comments that arose from the conception of psychological recovery.

> "*You've got to do something at the end of it I think. And it should not only be left down to the individual to find that something to do. That's the one thing I would say negative about RIOTT.*" - Patrick (P39); long-term IOT; OM

This taps in to, and leads on to, the next theme – the perception of need for re-integrative recovery in IOT/OST, addressing wider connections to, and roles within, society.

10.10. Reintegration

Linked to psychological recovery was the concept of reintegration. That is, reintegrating back in to society and communities; commonly expressed as the ability to make a contribution. Reintegration was conceptualised as both the gaining of something (such as an ability to make a contribution to society) and the cessation of something (through the cessation of problematic behaviour that served to ostracise

the patient from society and proximal communities – e.g., crime – and subsequent negative perceptions of the user from the outside world).

> "*Be thought of as a productive member of society. Pay your taxes and what have you. Yeah.*" - Reg (P12); long-term IOT; OM

> "*Get back into society, be a useful, you know.*" - Elena (P37); positive discharge; SIM

Patients felt that reintegration and activities were important, but needed to be a part of the IOT trajectory. Once again this was contrasted with support offered through IOT.

> …. "*Reintegrate you back into the community and work wise. Just a little bit more support would be better. A lot of people find it difficult moving on to the next level. Going getting a job, getting some information, you know, like stuff like that. That would really help I feel.*" Patrick (P39); long-term IOT; OM

In wider narratives several patients (both positive and negative dischargers) made reference to the making of goals in life as indicative of what recovery meant to them. The ability to make goals, and to strive towards them was sometimes viewed as the differentiation between a life dominated by heroin, and successfully embracing recovery.

> "*It means getting better, getting well and getting myself back on my feet. And getting something; some goals in life. To me, that's what it means.*" - Susie (P32); negative discharge; OM

Patients could state what their goals were within their recovery but it was clear that the ability to make goals in and of themselves, and strive towards them, were pertinent aspects of how patients conceptualised recovery and the desire to change. Stable housing also featured within wider narratives on what the overall picture of recovery looked like to patients. Cessation in engagement in criminal activities was a consequence of IOT, and patients viewed this as a component of successful recovery. This was sometimes in the context of the broader picture of health and stability.

> "*Just getting over all the health issues, the trauma, experiences, be it prison, on the drugs, street, homelessness, the whole crux of it, it's all centred and geared around heroin, it really is your whole lifestyle. So recovery to me is just getting over all that.*" - Harry (P8); positive discharge; SIM

Once again as also implicated in psychological recovery, several people highlighted the change to how they were viewed by the outside world – this was obviously as a consequence of changes patients had made that were noticeable and demonstrated stability.

> "*Not having the name 'smackhead', and mixing with normal people without them looking down at you. That's basically recovery but that takes a long time because - excuse the French - shit sticks, doesn't it?*" - Richard (P34); negative discharge; SIM

Within these narratives several positive and negative dischargers highlighted the role of both good friends, and non-using friends as instrumental to, and indicative of, successful recovery. Whether by good friends, or wider society, how patients were viewed by these groups, was clearly of consequence to how patients engaged with, and viewed their recovery. This external validation was important, applying to both positive and negative dischargers and long-term IOTs.

> "*I've got friends who don't do heroin, I've got friends who I go round and see in the evening, have a nice time and walk my dogs with, other people.*" - Jacob (P4); negative discharge; SIM

> "*Having good friends.*" - Charlie (P3); positive discharge; SIH

Patients cited the holistic gains that they made within their lives during their time in IOT. These gains became highly pertinent to their recovery, and patients cited a number of aspects of life that encompassed their concept of successful recovery. Whilst components of recovering wider life have been highlighted in other sections, patients sometimes explicitly highlighted that recovering their whole life in its multi-faceted components was what recovery meant for them. The distinction of this concept rather than simply recovering from illicit drug use was emphasised. Wider components included: employment; being an effective role model (e.g., to dependents and grandchildren); family and attachment relationships and their influence (e.g., the effect of a non-using partner versus a using partner); non-using peers and friends; making goals; stable housing; financial stability; 'coming out the other side' (of their addiction) and recovering from the heroin using lifestyle.

Several patients illustrated how employment fitted in to their IOT regimen, and the willingness to prioritise work or take a flexible approach to their treatment, with work

as a priority – e.g., either through attending the clinic early in the morning or later in the evening.

> "*Yeah, I'm used to working really, although I've spent a fair bit of my life out of work, I've spent a lot of it in work, I worked when I was here, and something I didn't mention for the best part of a year I was working down the road at the recycling plant and they kept the clinic open for an extra half an hour so that I could get here. …It is an aim, yeah.*" - Gerry (P20); long-term IOT; SIH

Here the patient has had the experience of employment during his IOT trajectory and wishes to incorporate it again in to the future recovery plan. Within impact of IOT and in patients' conceptions of recovery, several patients alluded to the importance of being an adequate role model to children and grandchildren. It was clear that patients felt that as their children grew up and had more of a sense of what was going on in the lives of their parents and grandparents, the more motivated patients became to stay in the maintenance stage of recovery. Having non-using peers and friends was highlighted as a positive sign that patients had achieved stability, and was felt to be connected to effective recovery and this concept of recovering wider life. This was also touched upon within the desires to lead 'a normal life' as illustrated earlier. A number of patients conceptualised recovery within the frame of making and achieving goals. One patient highlighted that it involved a complete shift in their thought process, as well as an ability to make goals.

10.11. Making progress in treatment

With particular relevance to the overall treatment and recovery trajectory, patients specifically highlighted the ways in which they felt they had made progress through IOT and recovery. The main themes within the making progress sub-theme were around clinical decisions (intermediate treatment goals and steps), protective factors (such as work and activities) and psychological adjustment.

Patients spoke positively about the fact that they chose to reduce doses, did not wish to increase dosage, and reduced the number of days that they received IOT a week. Patients also spoke positively about the progression to Slow Release Oral Morphine (MXL) treatment, and that dose stability led to the cessation of use of illicit heroin. These progressive steps indicate the importance of an individually-paced and flexible regimen, which is person-centred and tailored to the individual's stage of recovery. It

also illustrates again how patients' views about and goals for their treatment progressed and changed with time.

> "*And, yeah, it was a bit of a drag sometimes, and, yeah, sometimes, I started doing a course, for example, and then it would, that finished at, like, 4 o'clock, and I had to be there by half four, so it'd be really hectic, you know, and really stressful getting there. But that's when I started thinking, 'Oh, well maybe I don't need two injections today. Maybe I could just do with one.' So, like I said, it was, sort of, a gradual progress, really.*" - Pam (ID 19), positive discharge, SIH

> "*But now I wanna go back to work for a few reasons. One of them being it will make me feel good that I'm back in work. It will give me money to buy the things that I've always desired….And that will satisfy them, I think. That will make people happy. Make me happy as well. And then if, if the treatment clashes with the work, then I'll have to adapt. And I know I can adapt now.*" - Shane (ID 21), long-term IOT; SIM

The last sentence of the above quote illustrates quite apparently the dramatic shift in attitude and perception following long-term IOT. Patients were typically those who had previously prioritised acquiring and taking heroin over everything else, and for many years, who were then motivated and excited by IOT – sometimes to receive 'free heroin', and sometimes to attempt to finally make a change that had not previously been possible – yet were now reaching a stage where they could imagine adjusting their IOT treatment to suit a work schedule.

> "*That's the way I, kind of, thought and then it got to a stage where I didn't want that connection any more with using, so I started just intramuscular. And then after that it led onto, like, half intramuscular, tablets, and then tablets only when I started working.*" - Charlie (ID 3), positive discharge, SIH

10.12. Protective factors and activities

Linked to the making progress theme was the often mentioned role of protective factors in maintaining gains made through IOT and recovery. These mostly centred around activities – such as service user involvement (as covered previously), employment and voluntary work - keeping busy, and the support that was received; from the clinic, other organisations, family and partner. Employment, volunteering and

other activities became a priority for some patients, and conscious, reflective awareness of the fact that these activities had become a priority appeared to motivate continued commitment to stability and recovery. This indicates again, the role of a reflective and self-aware journey through recovery, so that personal values and associated goals could be prioritised and coordinated in to the recovery trajectory.

> "*When I started doing volunteering and looking for work, I knew that I couldn't keep using while I was at work, or it wasn't a long-term thing, so I had to put a plan of action in there.*" - Charlie (P3), positive discharge; SIH

> "*Work - work was supportive, yeah. Yeah, work knew about it. Yeah. They were well aware of it. And I was able to - I was able to work the clinic times round - do it in my own time, and working times round it, you know.*" - Reg (P12), long-term IOT; OM

The above quote indicates both the power of a flexible and supportive treatment system and outside support and acceptance, for recovery. Often it was a combination – or cycle - of protective factors that contributed to patients' progress. Work or volunteering as a protective factor applied only to those in long-term IOT and positive dischargers.

Family and attachment relationships improved, allowing for support to be incorporated in to the experience of IOT and the recovery journey. A number of patients highlighted some form of family support throughout treatment. Within these narratives, several patients mentioned that whilst family were initially worried or sceptical about IOT, in time they specifically noticed the positive effects the treatment had on patients. Family support appeared to arise as a consequence of the regimen and patients' stability, however also functioned as a maintaining, or protective factor.

> "*My dad wasn't too pleased about it at first, but when he realised it was working he became a lot more tolerant of it, but he's the only family member that knows.*" - Fay (ID 10), long-term IOT; OM

Family support was highlighted by all typologies and treatment groups.

10.13. Barriers to recovery

Across interviews there was sometimes some degree of difficulty in patients' trajectories, as well as the gains that were made during IOT. These arose at various points and were overall themes. Whilst the level of difficulty and struggle during IOT treatment was less prominent than the positive impact that IOT had on many and varied aspects of patients' lives, it is important to highlight these difficulties when, where and how, they manifested. Overall, regression and difficulties could be categorised into two main sub-themes: instability and dissatisfaction with treatment. Other specific themes included health problems during IOT. However in all cases these were entirely separate from IOT treatment, and often patients found IOT particularly helpful and supportive in these contexts – for example, housing, illicit use, difficult cognitions and emotions, and difficulty in relationships. It was proposed that the exploration of these attitudes and difficulties may provide a useful guide for the development of future policy and practice and the ability to pre-empt areas of potential struggle may help to work with and alleviate these struggles more holistically in practice.

10.13.1. Instability

A prominent aspect of the negative and difficult experiences patients illustrated was some form of ongoing area of perceived instability. This also encompassed trust and faith in the treatment, clinic and staff. Outside factors were sometimes unstable for patients and these were cited too. Overall instability encompassed clinical aspects of treatment trajectory, interpersonal aspects of the lives of this recovering sample, as well as the social and psychological aspects. Adverse events, continued alcohol use, withdrawal experiences and having to leave IOT against one's will or preference (for example, in the case of IOT clinic rule violations or hospital admissions respectively) all undermined the feeling of stability for patients. Some patients cited anxiety around the fear of IOT ending, and judgement from other people (a cross-cutting sub-theme). On a social level, having no social support was an unstable factor for patients, as was being unemployed and on state benefits. The rupture to, or breakdown of, interpersonal relationships was also pertinent.

> "*I did have three overdoses whilst on the way down* [SIH dose reduction]*, which were a little bit surprising and Dr. Smith had to step in when I did*

overdose and just hold me for a day or two. I overdosed three times coming down in dose, which couldn't really be explained." - Tom (P9), positive discharge; SIH

"*Once I got a dirty hit in there, but I didn't tell anyone. I couldn't wait to get out. You know if you inject something and you've got a bit of dust or dirt in it, I don't know how that happened in a clinical setting, but I couldn't wait – and I'm to go, like, you know, put my feet really to the floor to stop myself. I just couldn't wait to get out and bought some paracetamol in a convenience shop.*" - Luke (P18), negative discharge; OM

Patients cited their lack of support during IOT, as a cause of instability.

"*As you know, once you're tarred a junkie, it doesn't matter where you get it from.*" - Jack (P2), positive discharge; SIH

Patients also cited their ongoing worry about SIH ending. This led to ongoing feelings of instability.

"'*Cos when you've found something that works and makes such a dramatic impact in your life, has such a dramatic impact for the good on yourself, it becomes a worry if you think it's gonna be taken away. And I don't know whether they quite understand that bit of it.*" - Ron (P27), long-term IOT; SIM

That patients previously used heroin to cope with difficult life events and feelings of loss, and then recovered through a treatment programme that they appreciated and respected, brought grave feelings of fear about it being withdrawn and a return to the chaotic and unstable situation of their pasts, for those still in IOT at the time of interview. It was clear that the threat of treatment ending was a very emotive topic for patients, and the sense of hurt felt by patients at the potentiality of this not being understood by staff and management was apparent.

Instability encompassed pertinent sub-themes, such as fears about IOT ending, having to leave IOT against their preference, and adverse events, and as such ran across all discharge statuses and treatment conditions. Withdrawal experiences applied to all, aside from long-term IOTs. Fears about IOT ending were pertinent to positive dischargers and long-term IOTs; and both adverse events and having to leave IOT against one's will applied to all typologies. On an interpersonal and social level, aspects such as relationships, judgement from others, benefits and

unemployment and, in particular, a lack of social support, applied across all treatment groups and discharge statuses. Lack of social support had particular prevalence.

10.13.2. Dissatisfaction

Some patients expressed dissatisfaction with aspects of the treatment. The themes under patient dissatisfaction have been outlined in other sections of the analysis and will be summarised here. Dissatisfaction as a theme encompassed dissatisfaction with clinical decision-making - such as the burden of twice a day clinic attendance - dissatisfaction with dosage (both too high and too low), dissatisfaction with having to reduce the number of injecting days, the requirement for daily clinic attendance, negative perceptions of both the IM and IV route of administration, negative perceptions of staff, and clinical procedures; including the change from RIOTT to IOT, where it was perceived that rules tightened or changed unfairly. Dissatisfaction also encompassed patient regrets and the perception that the IOT regimen did not live up to patients' expectations. Regrets were relatively prevalent though only applied to those with positive and negative discharge statuses. Patients expressed regrets over decisions they had made themselves for their treatment, with complicity from the clinic; which the patient then later reflected on in a negative light.

> "*Not being so greedy. I wish I wasn't so greedy. Because you seem to give out much more than what people actually need.*" - Jack (P2), positive discharge; SIH

10.13.3. Health issues

Health problems were not usually connected to treatment, and in fact treatment was found to be helpful and supportive in this context. However, they were distressing to patients during treatment. Health problems during IOT applied to negative and positive dischargers as well as clinic closures. Additionally, these narratives outlining difficulties sometimes illustrated the patient's exit route from IOT, which was interesting information to uncover.

> "*The health issues I had at the time, so I had operations, my health deteriorated, I got major illnesses, so there was all that and then having to*

recover from all that and get healed and at times I was like anxious and a bit apprehensive that they might not want to know no more and that was the end of it but it weren't like that, they were still there for me." - Harry (P8); positive discharge; SIM

"*But I went into hospital one day – this is how I stopped using the RIOTT... I went into hospital because I had a blood clot in my leg.*" - Daniella (P1); negative discharge (other); SIM

Within this theme patients also referred to recent or current health problems. These were low in number and were all from positive dischargers.

10.13.4. Continued use of illicit drugs

Another prominent sub-theme within the barriers to recovery theme was continued illicit heroin and crack use. Here, exit route from treatment is also highlighted.

"*There was crack use throughout, yeah. That's why I finally came off of the RIOTT, because they were saying to me that, 'Look, yeah, we know that you're stabilised off of street heroin, yeah, but your crack use; it's gone up.*" - Jason (P26); negative discharge; OM

Overall, an increase in crack use applied to negative and positive dischargers. Jason's quote continued –

"*Crack is my drug of choice. Do you know what I mean? So, that's what I would prefer. Heroin: I can take it or leave it. Do you know what I mean? There was a time when I couldn't, but now I can take it or leave it. It doesn't bother me at all.*" - Jason (P26); negative discharge; OM

In this case IOT interrupted the cycle of chaos and instability caused by entrenched heroin use. Therefore, if illicit use does not stop completely, the entrenched nature of this addiction may be interrupted, and at least in the case of heroin use.

"*I had a bad day, come out with a silly remark, and I just said to them, basically, 'What you've done is take the place of my dealer.' You can't have no… none of that.* [VB: Is that how you feel?] *No, no, no. I mean, if I hadn't have come out with that stupid remark I'd have still probably been doing it.*" - Matthew (P17); negative discharge; SIM

The above patient was completely abstinent (including from maintenance treatment) at the time of interview however. The cycle of ongoing illicit drug use use was also demonstrated by one patient, but once again the unhealthy cycle of use was interrupted by IOT, at least for a period of time.

> "*Well normally now it's once a week, once a week. But I have to like cut that down now because I kind of promised Paul* [current keyworker]*, because he's been really good to me, I mean I used to be long term before, I mean we're talking like four years ago/five years ago I was like injecting it three/four times a day. And my house was full of people all the time. And I was like that. …That came after the RIOTT as well. I kind of went back downhill again.*" - Iain (P25); positive discharge; SIM

The following quote illustrates a despondency towards the patient's continued illicit use.

> "You know, especially having hepatitis now, I just think, 'Well, that's it,' and it's not gonna do me any harm." - Luke (P18); negative discharge; OM

The patient expresses a sense of fatality that was also a theme that arose from the heroin use history chapter; this sense of helplessness and fatality is clearly a factor affecting ongoing illicit use for some of the qualitative sample. Continued illicit use of heroin in this instance applied across all typologies, though overall numbers were low. Continued use of other drugs (benzodiazepines, crack and unspecified drug use) also applied across all typologies in low numbers. Overall illicit use varied in presentation – one negative discharger had periods of illicit use; one positive discharger had relapsed at some point; and one long-term SIH spoke about experiencing the occasional temptation to use. As touched on above, (negative) cognitions and emotions encompassed a resignation to one's fate and feelings that IOT had come too late; the damage had already been done (a negative discharger) and that goals were not met (two positive dischargers).

Housing problems were an aspect of this sub-theme and included comments that accommodation was unstable or patients were in, and remained in, temporary accommodation (three long-term IOTs and one negative discharger); or that current, stable, and more permanent, accommodation had issues (one positive discharger and one long-term IOT). These issues encompassed both damp and overcrowding for families in social housing properties.

Chapter summary and discussion

That recovery was individualised was one of the most prominent themes to arise from the analysis on patients' conceptions of recovery. Within the view that recovery was an individualised journey or approach was also the perspective that treatment duration should be decided on an individual basis. Patients also emphasised the viewing of patient progress in light of their heroin use history and situation at referral to IOT; that "progress" is relative in this sense.

One of the main conceptions, and indicators, of recovery from the patients' perspective was stability and functioning, again mirroring one of the main themes arising from the 'impact of IOT' analysis. This indicated congruence between goals within, and expectations of, IOT, and expectations and goals for the future. This also linked to the next sub-theme, which was the desire to feel 'normal' or fit in to 'normal' society again; reintegration back in to society was a prominent theme. It was clear that functioning and stability was a bridge to reintegration back in to society for patients. Once again, whilst not overtly communicated (and perhaps in part due to the smaller sample size of the Darlington qualitative cohort) there may be geographical variations to the process of reintegration patients may have experienced in their prospective locations – with Brighton a seaside town, London a busy inner city, and Darlington a small - and in some places quite deprived - market town with perhaps not a great deal of opportunity available to patients. Arguably, all three clinic locations have relative levels of deprivation and crime, though London invariably has more opportunity available to patients, such as volunteering opportunities and a wider range of adult education provision.

A recurring theme, applicable to these data, was the desire or ability to regain control. Reclaiming the power and control lost to patients through heroin addiction was at the centre of the recovery picture for these patients. Importantly, IOT allowed patients to access a vision of what recovery meant to them, and this may have been a key component of success. Some patients indicated satisfaction with the current level of stability and functioning; explicitly stating that recovery is what they are currently doing. That this applied to long-term IOTs only, demonstrates the need for ongoing support for patients to stay motivated to keep striving.

A vision of good health and harm reduction was pertinent to patients' vision of recovery. The stages of recovery are illustrated within this, for example the importance of cessation of illicit use of heroin, in order to access a clearer perception

of goals health wise. The conception of stability and functioning encompassed a number of wider factors for patients, including eventually reaching the point where the user no longer thinks about drugs. Overall patients envisaged a completely new outlook as significant to the vision of successful recovery. Employment and financial stability were implicated within the recovery vision. Sometimes employment was a stand-alone aspiration and sometimes it was mentioned as part of the overall picture of routine, stability and functioning patients desired. Once again this was only pertinent to the long-term IOTs and positive dischargers, though the achievement of stability overall had relevance to all participants.

Whilst the holistic nature of recovery was emphasised, illicit use and maintenance treatment was a strong feature of the recovery trajectory for patients. There was a divide across the sample between those who saw IOT or OST maintenance as appropriate for ongoing recovery, and others who viewed complete abstinence as the epitome of recovery. Both camps comprised all typologies. In this context no longer thinking about heroin was again highlighted and viewed as the ultimate indicator of recovery. Within these narratives, some patients highlighted how difficult recovery was, and the need for ongoing support. As well as regaining control, another important theme appeared to be continuing to access support.

Ambivalence about abstinence was a feature of patients' experience when describing about concepts of recovery. Some degree of current mental anguish was experienced by some patients, and the synergistic role of stressors caused by wider society – for example, welfare policy changes. These were potential risks to relapse, and included associated stress about this risk. Patients emphasised their psychological recovery and the importance of this dimension. This encompassed recovering self-esteem; once again, changes to sense of self and self-identity; the role of psychological therapy in recovery support; and improvements to cognitive functioning. Psychological adjustment and the benefit of reflective space was also referenced. The progression of experiences and associated psychological processes preceded an ability to self-reflect in the context of mapping out goals for the future. Achieving goals in and of themselves also contributed to a picture of improved self-esteem. Once again perceived control was implicated in the picture here also. Self-esteem as a definition of recovery was mostly illustrated by positive dischargers.

Throughout overall narratives, arose the view that recovery needed to be supportive, and that this support needed to be holistic across a number of life domains. This introduced another theme; the need for re-integrative recovery – where patients gain

support to integrate back in to regular society. Here patients emphasised the importance of their having an ability to make a contribution. Adjectives such as ‘productive’ and ‘useful’ were highlighted, and the need for support which would allow for this area of life to flourish was emphasised. Psychologically, having the ability to make goals was linked and highlighted. Other areas of importance to the recovery picture were stable housing and cessation of engagement in criminal activities. These matched goals at treatment outset. Finally, patients illustrated the role of good, stable (non-drug-using) friendships, and the pertinence of how patients were perceived by the outside world. External validation was important to a conception of effective recovery.

Patients conceived the relevance of recovery for wider (aspects of) life. Many of the sub-themes encompassed within this idea have been illustrated and described already; concepts included an ability to engage with employment; the role and impact of children, grandchildren and friends. Additionally, an ability and motivation to make new goals, and notably, a shift in how they perceived their life and in turn their recovery within it. Cognitions and emotions in relation to how patients viewed recovery was relevant overall. Overall there were strong links between two themes – reintegration and the need for ongoing support post-IOT. Support needed to encompass wider recovery, and in a number of cases needed to be ongoing, and perhaps even lifelong, to protect against the cycle of relapse that was most feared by IOT patients.

The final themes were not outlined in direct response to the questions on how patients conceived recovery, but were themes about recovery that arose at various points during interviews. Linked to reintegration, was the next theme – making progress in treatment. Patients highlighted progressive steps, such as dose and day reductions and switching to IM administration. Patients also highlighted a shift in perspective including the eventual desire to find employment. This – amongst other concepts and activities – also served as a protective factor. Overall, psychological adjustment during the trajectory, and to treatment changes, were highlighted within this theme.

The final section outlined barriers to recovery. These arose at various points across interviews. Negative experiences and dissatisfaction encompassed occasional mistrust between patient and staff; perceived regressive steps; the negative impact of unwanted or mishandled clinical decision-making; difficult exit strategies; relapse experiences; perceived instability (within both life in and out of the clinic); worries and fears; continued illicit drug use; disliking effects of medication; perceived lack of

autonomy, and - aspects of worry unrelated to treatment such as – health issues and housing.

On a final note several patients included the phrase ‘coming out the other side’ of their addiction, and others still spoke about recovering from the heroin using lifestyle. Narratives (from positive dischargers and long-term IOTs) indicated a change in the perception of one’s identity. This may lead to changes to self-esteem and self-worth, all contributing to a more stable perception of one’s own recovery. All or nothing thinking is common in relapse to addiction and in this case, perceiving one’s self as a ‘junkie’ may have previously undermined recovery efforts. Through IOT patients were able to change these cognitions. It appeared that the cognitions and emotions patients had in relation to how they conceived recovery was an important factor in the effectiveness of, and motivation for, engagement with effective recovery. Patients were brave enough to begin conceiving a life without heroin, and it may have been these conceptions and psychological processes that facilitated success. Once again, the right steps at the right time were key, and the trajectory itself was vitally important for patients to arrive at a more reflective and self-aware point. Importance is placed on where patients go beyond IOT, the need for ongoing support, perhaps in the form of ongoing work with, and cultivation of, those conceptions, beliefs and ideas.

> “*I’ve recovered from being a ‘junkie’. Now I’m an ‘addict’. And an ‘addict’s’ alright.*” –Shane (P21); long-term IOT; SIM

Chapter 11 – Findings: The current situation and goals for the future

The final section of findings describes patients' current situation and goals for the future. The chapter completes the examination and description of the trajectory and allows interpretation of the findings in light of patients' goals at treatment outset, and experiences of treatment. There are two sections to the chapter; the current situation – which encompasses issues and experiences outlined during interviews – and then a section of patients' goals. Patients were specifically asked about their goals for the future.

Table 46. ***Outline of 'The current situation and goals for the future' chapter themes and sub-themes***

Reference	Theme	Sub-theme
11.1.	The current situation	
11.1.1.		Instability and difficulties
11.1.2.		Stability and improvements
11.1.3.		Current drug use
11.2.	Goals for the future	
11.2.1.		Abstinence from illicit heroin use
11.2.2.		Reducing illicit drug use
11.2.3.		Subutex maintenance treatment
11.2.4.		Employment, voluntary work, and other activities
11.2.5.		Education and courses
11.2.6.		Artistic aspirations

11.1. The current situation

Patients' current situation was a significant topic of discussion across the sample. This was a useful focus within interviews as patients were able to illustrate how much of an effect – and whether this effect was temporary or long-lasting in light of the current situation – IOT had had on their lives longer-term. Across the sample patients' narratives on the current situation were dichotomised by stability, or a stable situation, and instability and difficulties. Patients' accounts of their current situation could also be dichotomised by illicit drug use versus non-use. Additionally, narratives focussed on experiences and perceptions of OST following IOT, as this was the post-IOT trajectory for a number of qualitative patients.

11.1.1. Instability and difficulties

Difficulties were apparent for a number of patients, though at this point these difficulties were not as a consequence of heroin dependence. A large number of patients illustrated present day difficulties. Overall, difficulties centred around physical health, housing, domestic violence, psychological health, family and relationship difficulties – including children involved in the care system – financial difficulties, difficulties with university work, and criminal justice involvement. Patients' for whom these themes were relevant illustrate clear areas of ongoing instability and vulnerability in their lives. In some cases, the stability that arose through IOT created new (positive) ventures and responsibilities (for example, university study, and reconnection with dependents and family), which were then cited as a source of current worry and concern for patients. In some cases, it was a new area of concern.

> "*I'm in a property by St. Mungo's waiting to be evicted. I stay at my boyfriend's a lot, but I suffer a lot of domestic violence with him at the moment. …I'm in supported accommodation now, but they've taken my support and I'm being evicted, so I don't know where I'm ending up. I'm just waiting for an eviction.*"
> - Daniella (P1); negative discharge; SIM

Whilst obvious areas of patients' lives may have been more stable, patients cited emotional or psychological difficulties. For some it appeared that a more reflective consciousness created through the stability provided by IOT opened up areas of

psychological difficulty for patients, which had previously been masked with drugs and the associated chaotic lifestyle.

> "*I'm on trazodone, I'm on atarax, I'm on – by my psychiatrist - and all these chemicals going through my body. You know what I mean? It's going to give way sooner or later. I'm having nightmares upon nightmares. It's too surreal for me now. I've only been on them since August last year, but yeah, it's all getting a bit much. Six hundred milligrams of trazodone at night, which is a very heavy dose.*" - Jack (P2); positive discharge; SIH

As well as psychological difficulty it appeared that health problems also came to the fore, and which appeared to arise out of the health consciousness that stability through IOT had provided space for.

> "*I have been advised it would be the right thing to get support or maybe to get a script or at least have some contact with a counsellor or something maybe which I think I might need to do because I'm starting to feel vulnerable. …I'm staying on top of it but every now and then I get struck down with a bad, it seems to be chest illness, TB was my last one. I had severe pneumonia a few years back and it very nearly killed me. I had two chest drains, intensive care for three weeks. I've had DVT in my legs due to injecting but I've come through all that and so that bothers me a bit and concerns me, I think as I've got older I am a lot more health conscious, or try to be but financial reasons dictate otherwise as you know. …I'm not in a great position at the moment, Vicky, financially, support wise, I'm on my own, so I am a bit lost again at the moment.*" - Harry (P8); positive discharge; SIM

The following quote particularly demonstrates that the situation was mixed for patients post RIOTT. The above patient was detoxed from OST completely, and not using illicit drugs at all, however, difficulties and triggers to relapse were highlighted and the interview seemed to allow reflective space for this awareness. The majority of patients seemed to trust me as interviewer and this led to an open discussion – I thought this was particularly illustrated with the fact that the above patient often used my first name when he responded to my questions. The above patient was one of a number where I got a sense that they had reflected a lot prior to the interview, in preparation for the interview, indicating again the reflective ability that patients had cultivated since – and perhaps as a consequence of – being in IOT long-term. Once again more conscious awareness around health was also highlighted. Whilst worrisome for patients,

indirectly this may have led to better health and well-being overall; awareness being key for intervention and involvement with medical services.

> "*Unfortunately I suffered some sort of mental breakdown where I was a bit able to remember things from very, very young. It grew into a manic episode and I'm still being treated for that now, with - I'm up to 800mls of quetiapine, or I was at the time and lorazepam to get me to sleep. …It was just all very unexpected, because I'd been planning this detox for about the past three years.*" - Tom (P9); positive discharge; SIH

The above quote illustrates clearly the difficulty and turmoil that could arise for patients following IOT. More particularly, that the recovery trajectory overall also encompassed pain and suffering that patients may have previously been able to shield themselves from by using heroin and its associated lifestyle, evidenced in the heroin use history chapter.

> "*I've got quite a lot of joint pain and I've got COPD and asthma, so my health isn't great but it's better than it would have been if I'd kept using, so I mean you can't expect to lead the life I have for the last thirty years and be sort of fully healthy by the end of it.*" - Fay (P10); long-term IOT; OM

The above quote illustrates, again, knowledge of the harm caused by heroin use, and that IOT had had a positive impact, even in the context of current difficulties. It was very interesting to discover that stability may have led to anxiety about areas that patients may not have previously been able to reflect on. Within the instability theme several patients also alluded, once again, to a sense of resignation or fatality about their situation – a feature of the transition to heroin use within heroin use history. In the following case this resignation was in the context of a relatively stable current situation, however.

> "*So I keep saying I'll do some voluntary work or go to college but I know, as is always the case with me, it never happens and so I think I do need a bit of support somewhere in there but, you know wouldn't hurt, would it?*" - Harry (P8); positive discharge; SIM

Instability was a prominent theme across all typologies and treatment groups.

11.1.2. Stability and improvements

In contrast, a large proportion of the sample cited stability within their current situation, or a qualitative improvement to their situation. Stability also applied across all typologies and treatment groups. Patients highlighted improved health, abstinence, successful detoxes, more stable housing, non-using partners, support groups, dependents as protective factors and improved family dynamics as areas encompassed by current stability.

> "*My housing's fine at the moment. I'm in temporary accommodation; it's not great but it's better than a hostel. I'm in a one-bedroomed flat but that's only because I've recently had my child, I think they gave me that. But before I've been homeless and it hasn't been too good.*" - Stacy (P5); positive discharge; SIM

Patients sometimes cited current difficulty in the context of their perception that things could be worse.

> "*I'm cushtie housing-wise, I bought a house in* [street name] *Street. I live with my partner and my daughter's got her own house and we've got a grandson who's one, so that's why I've been trying to knock it on the head completely.*" - Richard (P34); negative discharge; SIM

Here again dependents are highlighted as a protective factor embroiled within the recovery journey.

> "*Although Jemima* [patient's step-daughter] *is very ill, things are pretty stable. We haven't had social service intrusion or anything, there's been no complaints made or we haven't had to ask for help from anyone. We're pretty self-sufficient.*" - Gerry (P20); long-term IOT; SIH

Once again there is an overall sense of the patient feeling that things could be worse. In many cases instability was separate to that which would arise from using illicit drugs.

> "*I've tried, I sell the Big Issue, that's more to keep me occupied as well as a little income that just keeps me ticking over as well. What I like is, I like to think I'm a sociable, talkative bloke and I chat to a lot of people every day and it's nice, I get satisfaction from that.*" - Harry (P8); positive discharge; SIM

11.1.3. Current drug use

Within mentions of current instability included patients' accounts of their current drug use including accounts of non-use. A significant proportion of the qualitative sample highlighted incidences of current drug use – for example from occasional heroin or crack use through to more regular - though purportedly not problematic - use of cannabis. Patients highlighted current heroin use, however there were more occurrences of other drug use. Patients most often made reference to the fact that current drug use was sporadic or much less problematic than at referral to IOT. Overall there was less sense of chaos or lack of control within these narratives.

> "*Carried on using – I haven't really stopped. I was on the RIOTT for a while. I didn't use heroin, but I was still injecting crack. Now it's – once a week I'm injecting heroin and maybe twice a week crack and I'm on methadone as well now. I'm on methadone 50mgs. …I have been offered to go back to the RIOTT, but I don't want to because of having to go there every day. Your life is just tied into that and I'm not injecting every day anyway. …Crack's my problem more now.*" - Daniella (P1); negative (other); SIM

Patients also revealed the trajectory that led to lapse and relapse following the end of IOT.

> "*I'm dabbling, but not to the extent of getting myself in trouble. But boredom set in about a year later and I started dabbling again.*" - Jack (P2); positive discharge; SIH

> "*I've only really started having a problem again with it as my dose has been reduced. …Since I've been subject to the court order my usage of illicit heroin has dropped and I'm quite pleased at the moment; I've gone quite a spell without using. So long in fact that I can't remember when I last used. You know, it's not years but it's weeks at least, and with the court order and that, I'm confident I can keep that to a nothing; no usage.*" - Sammy (P11); long-term IOT; SIM

Some patients were currently abstinent from illicit heroin, but alluded to relapse post-IOT.

> "*I relapsed a little while ago but it was only a one off.*" - Jacob (P4); negative discharge (other); SIM

Mental health difficulties were implicated in relapse.

> "*Unfortunately with the breakdown, a month and a half after I detoxed I started using again. I used for two weeks and then came back in here, where I was put back onto subutex. …I'm under three different doctors I think and they want me on a steady intake of subutex while they work out what's going on head-wise, psychiatric-wise and body-wise, because I've also lost something like two and a half stone. In the five years I was on RIOTT I don't think I had a dirty heroin sample, but now I've started to play around.*" - Tom (P9); positive discharge; SIH

Often drug use was minimal, not habitual, and involved other drugs, as opposed to heroin.

> "*I smoke cannabis, but other than that, no.*" - Fay (P10); long-term IOT; OM

Several patients highlighted fear of returning to an unstable or chaotic situation. Patients mentioned that they wished to make a change to their current situation before it got out of control. Here again, the awareness gained through RIOTT might have been the mechanism which prevented a full relapse, and once again the trajectory of relapse is illustrated.

> "*I've had a little relapse, a little setback, where I've been dabbling. I've ended up making new friends and dealers and it's such a small area where I live, they all seem to know me, like, I just go to the shop and you've got someone hailing you, and then it becomes too easy to score again. I mean, there's no point in me buying heroin because it doesn't do anything, but it's the thought, that, I don't know what it is. … It got to the point, when I was on my own and I had a bit of money, and I was depressed, or whatever, I ended up buying a bit for myself, but then regretting it once I'd done it. Once it was gone I was regretting it straightaway. 'Why did I do that? Why did I do that? I hate myself for doing that.' So I'm trying to stay away from it now, because I wanna sort my life out, because things have started getting chaotic again for me. I've got all these debts, you know.*" - Fran (P13); long-term IOT; SIM

A number of patients highlighted abstinence from illicit drugs in the current situation – including abstinence from any substitution drug - however sometimes abstinence was motivated by reasons other than commitment to recovery.

"*So, yeah, I just think the heroin's too shit to bother buying and I can't afford it anyway.*" - Luke (P18); negative discharge; OM

The quote indicates the lack of sole drive towards acquiring and taking heroin, however, which again may have involved a drastic change to the patient's way of life and identity, both contributing to and culminating in greater stability. Current use of illicit substances, albeit in reduced amounts and frequency, was prominent across all typologies and treatment groups.

11.2. Goals for the future

As illustrated and analysed in the referral to IOT chapter, patients were asked to reflect back on goals that were formed at treatment outset. Patients were also later asked to talk about their goals for the future – following the IOT regimen.

There were clear and specific sub-themes within patients' narratives. The main themes that arose from this inquiry were: abstinence; to reduce illicit drug use; subutex; artistic aspirations; education; work, activities and voluntary work. To some degree these matched those made at treatment outset, though some new themes also emerged. It was interesting to discover new themes, as a further indication of the impact of IOT, and the progressive nature of goals in this context.

11.2.1. Abstinence from illicit heroin use

A number of patients cited abstinence as their primary goal going forward, and following the IOT regimen. For some this simply involved maintaining abstinence already achieved.

"*Just stay clean and stay away from it.*" - Jacob (P4), negative discharge (other); SIM

Once again patients expressed anxiety around the ability to achieve this goal.

"*Absolutely terrified, because it's the only time in my entire life that I've managed abstinence for any prolonged periods of time.*" - Fay (P10), long-term IOT; OM

Sometimes the goal of abstinence was in the context of other goals, such as interpersonal goals.

> "*Yeah, to get clean and to visit my family. Because they wouldn't tolerate me for very long if I was using. They wouldn't see me.*" - Clara (P7), negative discharge (other); SIM

A number of patients cited abstinence from all maintenance medication, including methadone, and the desire to eventually leave IOT treatment completely.

> "*Actually I'd like it. I'd like it. Yes, yes, definitely. I mean, I'm nowhere near a point where I'm going to absolutely drop my methadone use. That's a future goal, but me not coming here and injecting once a day I think would help me to not use period because it takes the injection out of the equation, which I think you understand.*" - Sammy (P11), long-term IOT; SIM

There was a clear sense that some patients had reached the end of the drug taking and treatment line – as also expressed earlier by one patient (e.g., with the proposal that users eventually naturally stop).

> "*For me, the goal is just abstinence, I just want to be able to get up in the morning and not think 'Oh three hours until I feel well'. I want to feel well the minute I wake up. And get home from work and just don't want to use heroin any more, I've had enough.*" - Gerry (P20), long-term IOT; SIH

Whilst initially some patients had reached a point where they had had enough of the instability and chaos associated with taking illicit drugs, so too did some come to feel this way about attending the clinic every day for IOT, and the progression to abstinence as the goal. Some patients had made a plan, and this was in the context of a resolutely determined desire to never return to street heroin use.

> "*I'm not happy about being on it* [IOT]*. I do want to leave, I do want to get clean. And I do believe that my route is best, I want to get off, and I will do and the thing is I want to - now I've got it sorted, I'm going to carry on doing what I'm doing even if they stop the treatment tomorrow, I will carry on doing what I am doing, I do not want to use street drugs ever again.*" - Oliver (P16), long-term IOT; SIH

For other patients the goal was abstinence from illicit heroin, in the context of current continued illicit use. The range of responses within the abstinence goal reflects the

different stages that patients were at following differing lengths of the IOT trajectory. Abstinence was prominent across all typologies, with less representation within clinic closures, however, again, this could have also been due to the smaller overall sample.

11.2.2. Reducing illicit drug use

Patients spoke about their current reduction plans – e.g., reductions from oral methadone - and the fears and anxieties around this. Often the goal was conflicted with fear, for example the following patient who was currently (at the time of interview) on oral methadone.

> "*I do want to cut down but it's just so – coming off that last bit of methadone - it's just so horrible.*" - Daniella (P1), negative discharge (Other); SIM

Patients were often determined yet unspecific with their goal, such as the narrative below, from another patient on oral methadone (at the time of interview).

> "*I don't want to be on it for the rest of my life. Sooner or later I want to come off of it, you know, because I don't want to be 60 and still going to these places, sooner or later; I was talking to Joe* [keyworker] *before, sooner or later I'm going to get it, start reducing, reducing and reducing and my body will tell me if I'm reducing too quickly, you know.*" - Nicholas (P14), positive discharge; SIH

As before the overall goal (to reduce) was in the context of a longer-term treatment reduction plan, and in the context of other hopes and aspirations patients had for their lives. The quote below (patient currently on MXL) – and above - illustrates the collaborative nature of the plan – between patient and clinic/keyworker.

> "*Reducing until I'm off. I wanted ideally to be off it by the time I do my final year* [of university degree] *so I'm a bit disappointed. …Slowly, they know that I want to have a child but they know that I wouldn't want to have a child while I'm on benefits so they know that if I go off too quickly it would be a bit risky and they know that I'm quite old so I haven't got that big a window really.*" - Ellie (P22), positive discharge; SIH

The quote indicates how collaborative, and key, the relationship with the clinic and keyworker was in forming individualised and meaningful goals for the future for this

patient. The following quote is by a patient currently (at the time of interview) on MXL and who was referring to MXL as her treatment drug of choice, however refers to a 'cup' which would relate to oral methadone, however she did seem to be referring to MXL.

> "*I just want to go down to the minimum possible. You know, like the therapeutic dose, let's say 30mgs, which is the smallest tiny little cup that they make. You know, just … yeah, yeah, just to keep it … because there is a theory that, you know, goes around, that less is more. And it's actually true. I mean I've found that the less I take…You know, the less I want and the more… it seems to work.*" – Elena (P37), positive discharge; SIM

Once again reduction as a goal had strong prominence amongst positive and negative dischargers, and apparent but less prominent presence amongst long-term IOTs and clinic closures.

11.2.3. Subutex maintenance treatment

A handful of patients mentioned subutex (or buprenorphine) as the substitution programme that they were working towards, or that they considered to be their goal. This was an interesting finding in the context of an IOT trajectory. In the following case buprenorphine was viewed as progression pertinent to the patient's stage of recovery.

> "*To be honest, that's what I want to go over to now. That's why I've stayed on such a low dose because I think that's such a fantastic drug and I think more people should go Subutex rather than methadone. I need to change over to Subutex and stay on a low dose because I don't want to be... I'm 35; I don't want to be stuck in this. I've gone backwards too many times.*" - Stacy (P5), positive discharge; SIM

Once again the sense of desperation over the cycle of addiction, and determination to make lasting change is apparent. This was a goal for several positive dischargers and one negative discharger.

11.2.4. Employment, voluntary work, and other activities

As was also the case at treatment outset, aspirations in the area of work, voluntary work and other activities was a prominent goal.

> "*Yes, very much so. I mean, working in hostels for the homeless it kind of hits all the things I've been studying for the last five years because I'm part way through an open degree with the Open University. I've only got one more little level three course and I've got an open degree and I've just finished a foundation at* [university name] *University in substance misuse.*" - Fay (P10), long-term IOT; OM

> "*I'd rather be getting out and going to work like and then, you know, coming home in the evening and, you know, that's my goals now, like, just to get a job. Well I suppose, yeah. Yeah recover I suppose is me in my council flat with a job and that's it and I can go from there like, you know. That was my goal. That's all I want out of life at the moment.*" - Josh (P41), long-term IOT; SIH

On several occasions patients alluded to the desire for simplicity and stability; home comforts and a quiet life – presumably wanting a complete change from the chaos of the past. Work, activities and voluntary work was a goal for those in long-Term IOT and positive dischargers only.

11.2.5. Education and courses

A number of patients mentioned the desire to complete, reengage or engage with education or courses. Often aspirations were quite high – the completion of university level degrees – and feasible – i.e., patients were part way through courses, and the goal was to complete them. A number of patients mentioned courses in substance misuse or mental health, and the desire to work in these fields, corroborating the need for activities that are significantly meaningful to patients.

> "*I wanted to go to uni last September and do a degree in drug misuse and intervention, but unfortunately I didn't feel comfortable enough with the state my mind was in. With the loss of confidence after doing the detox, I said I'd defer for a year and do the voluntary work wherever I can and then start again,*

sort of thing, and hopefully go in in September next year." - Tom (P9), positive discharge; SIH

The quote above illustrates how a recent relapse affected pursuit of an aspiration. Similarly, the quote below highlights an aspiration, yet perhaps suggests some hesitancy around complete faith in the ability to achieve it. That the holistic aspects of recovery do not progress at rates that are unmanageable for patients is perhaps important.

"*I mean I ideally would like to finish university*". - Ellie (P22), positive discharge; SIH

"*I want to finish my degree.*" - Pam (P19), positive discharge; SIH

Overall, whilst goals were sometimes not achieved, the fact that such aspirations were created and goals attempted was a starkly different situation to those who had reached breaking point upon entering IOT. Education as a goal was mostly expressed by positive dischargers, as well as one person in long-term IOT.

11.2.6. Artistic aspirations

A number of patients spoke about artistic tendencies and artistic aspirations in the context of narratives around future goals. Several patients mentioned that they had previously been artistic, 'until the drugs came along'. This demonstrated the ability to reconnect with a previous self-identity, and find space to think creatively about goals, following the IOT trajectory.

Sometimes aspirations were specific or about to be realised.

"*Well I'm about to do a documentary thing called Addicts Orchestra, I don't know if you've heard of it, it starts on Monday, I've still got time to pull out, it's a really powerful idea; addicts with music, for a violinist, it completely, to make a piece of music, and if I was to think of this as completely self-interest I definitely couldn't do it.*" - Ellie (P22), positive discharge; SIH

As above, and also below, aspirations were sometimes based on skills patients were aware that they already had but had previously put on hold due to their drug-using lifestyles.

> "*I think I'm really good at art as well. I've been in and out of it but I've never held that down. I've got another hobby which I do, model making, but I do want to get back into my art.*" - Harry (P8), positive discharge; SIM

Aspirations were also more abstract or unspecific.

> "*If you go down by the Thames and all these stones, you know, you polish them up and there's bit of jewellery that someone could buy. You know, there's loads of different things you can do like that.*" - Cheryl (P40), positive discharge; SIM

Aspirations were also grand and specific.

> "*I want to write a book. I know it sounds a long way off, but I'm desperate to write a book about all my experiences, my whole life…I've got a lot to tell, you know, but I don't think it's ever gonna happen.*" - Fran (P13), long-term IOT; SIM

The above quote illustrates an aspiration coupled with a sense of negative resignation – or fatalism, which was a theme that ran through a number of narratives – both reflecting on one's past, and heroin use history, in the context of leaving OST, and aspirations for the future. This is also reflected in the first quote – 'I've still got time to pull out'. These automatic negative thoughts may be identified during treatment and worked with therapeutically to facilitate a more holistic recovery, something which may have sometimes taken place in key-work sessions. Once again artistic aspirations were expressed by those in long-term IOT and positive dischargers only.

Chapter summary

Some patients highlighted the benefit of IOT in the context of current difficulties indicating that the path to well-being is not linear, despite a holistic, efficacious treatment programme. Stability also had strong prominence in narratives on patients' current situation, though some patients highlighted unfulfilled goals and dreams in this context. Current drug use had surprisingly strong prominence, however drug use was usually occasional and heroin use more sporadic. Regular, yet purportedly not problematic, cannabis use was also highlighted, and a small number of patients illustrated post-IOT lapses and relapses. This indicates that a course of IOT does not lead to permanent abstinence for all patients, and situations – such as boredom, new

connections, depression and psychological breakdown - were highlighted as triggers to lapse and relapse in these cases.

Goals involved change and stability as well as more specific goals. Goals sometimes matched those at treatment outset (such as abstinence and reduction from illicit drug use), however other new goals also emerged (such as artistic aspirations). Goals were often outlined in the context of maintaining current stability or completing a current project, such as a university degree. It was notable that all patients currently completing university degrees were either in London or Brighton (where there are universities, and in particular London, where opportunities for adult education are ample) as opposed to Darlington. Once again, a regional variation in terms of available opportunities for reintegration for patients, might be pertinent to recovery. The final more unique goal was the pursuit of artistic aspirations. These were sometimes highlighted in the context of the fact that they had been unfulfilled in earlier life due to dependent drug use. It was clear that goals were more prominent and creative amongst positive dischargers and those in long-term IOT.

Chapter 12 – Discussion

The research aimed to describe the patients' experience of injectable opiate treatment; and determine the role of IOT in the patient's overall journey of recovery. In so doing the thesis contributes to the scientific understanding of IOT. The thesis achieves these aims through quantitative descriptive analysis of long-term outcomes, and a description of patients' experience of treatment through qualitative interviewing. The thesis gained rich and in-depth information about patients' experience, which is of use to future IOT and OST research, clinical practice and policy. The following chapter outlines the researcher's reflections that were made both during and after data collection and write-up; a summary and discussion of the main findings from each chapter; and makes recommendations for future research, policy and clinical practice. The chapter considers methodological strengths and limitations and results are discussed with reference to previous research literature explored in chapter two (the literature review).

12.1. Researcher's reflections

The researcher made notes both during data collection and in the write-up stages regarding her own personal reflections during interviewing and data analysis. The researcher observed thoughtful and reflective responses from patients during interviews. In some cases it was clear that patients had spent some time reflecting on their experiences prior to sharing their stories on the day of the interview – in several cases patients mentioned that they had spent some time thinking about the experience and the interview prior to undertaking it. The researcher subsequently reflected that there may been some degree of rosy retrospection bias in patients' accounts, particularly if patients wished, either consciously or unconsciously, to present IOT in a positive light – not least in the context of potential clinic closures. Patients appeared to be aware that this was a possibility, or that the funding for the treatment may not be reinstated. That said, wishing to present IOT in a positive light is a valid lived experience on the part of the patients and the qualitative interviews aimed to represent the experience and perspective of IOT service users. The researcher – and academic supervisors who triangulated sections of the analyses – reflected that patients appeared candid and open in the accounts that they shared. The researcher reflected that this appeared to be facilitated by the first question where the researcher asked patients about their heroin use and treatment histories. This

question appeared to allow patients to relax in to the experience of sharing their experiences, and appreciate being listened to. It is also the case that patients who have spent large amounts of time in drug treatment are likely used to, and practiced at sharing their stories.

Whilst the researcher was separate to the clinical team and the RIOTT research team – an aspect that was outlined to patients during recruitment in an attempt to yield more honest and open responses – it was clear that she was from a very different background and culture to the patients in the qualitative interview study. With this in mind it is important to remember that a power dynamic would have still likely been present. Patients may have made assumptions about the researcher and this may have affected how they presented their narratives and experiences. This effect may have been more pertinent in some interviews than others. Patients may have wished to say the 'right' thing, or to impress the researcher – e.g., when reporting their progress through recovery during IOT; this could have perhaps occurred again, because the patient wished to present IOT in a positive light in order to add strength IOT's perceived efficacy. Additionally, rosy reporting biases may have occurred simply because patients wished to frame their own progress in a positive light. There was clearly some degree of competition between patients, with comparisons to the progress of other patients a common feature of interviews. Once again, whilst these are potential biases, they also represent the lived experience on the part of this cohort of patients. That patients' narratives were positive, and that they really appeared to want to communicate a positive experience of IOT, is worth taking in to consideration when interpreting the findings however.

The motivation to affect the direction and future for policy and practice on OST was a meta-theme which emerged during analysis of narratives, particularly amongst those with service-user involvement responsibilities. This indicated that empowerment and service-user involvement was implicated in the success of IOT, as well as an important area of patients' recovery. This aspect is also indicated by the willingness of patients to take part in the qualitative interviews, with no direct refusals during recruitment. Two patients asked that they be asked to participate another time, and the researcher did not push these individuals to participate, since a reluctance at that time may have been indicative of an overall reluctance to participate. The researcher did not wish to persuade patients to partake; that participation was completely voluntary was important ethically and methodologically to the study.

During recruitment (in the waiting room of a treatment clinic) one patient stated that she thought it would not be difficult for the researcher to recruit patients to the qualitative study, as RIOTT was 'close to patients' hearts'. That patients appeared thankful for being given a voice to share their experiences through qualitative interviews was something that the researcher noticed and interpreted during data collection. That patients were reimbursed for their time was also a factor to consider in motivation for participation, and once again this may have led to response biases during interviews.

The researcher spent a week in the Darlington location during data collection, whereas for interviewing in London and Brighton this was unnecessary, as trips to Brighton could be completed in a day, and the London clinics were close to the researcher's workplace. The researcher reflected on the stark differences across regional locations, socio-economically, and in terms of provision of opportunity. Brighton is a pleasant, busy seaside city locality within the city of Brighton and Hove. There is a lot of green space and patients are close to the sea. The area is also quite densely populated. In London, patients clearly had a lot more opportunity for volunteering and completing courses and education, however. Patients in London seemed busy; their lives operating at a faster pace than those in the other locations (and in particular Darlington). In Darlington, the clinic was located in quite a deprived location with not much around for people to do. The town centre itself was a little busier, but it was clear that there were far fewer opportunities for patients to engage with education, activities and volunteering. It was notable that these opportunities were not present in the lives of the Darlington cohort. Whilst it was not specifically commented upon during interviews, the researcher felt that the size and lack of opportunity in Darlington was present in participants' narratives, compared to the experiences of those in London, and to some degree, Brighton. Overall, the researcher felt that location, surroundings, and geographical opportunity could be very pertinent to successful, long-lasting, and meaningful recovery.

The researcher would like to state that she was very much in favour of IOT on a conceptual level throughout data collection and write-up, and kept this bias in mind at all stages of her work. Additionally, the researcher is a psychologist (in both research and clinical practice) with previous experience of working in addictions treatment services, and tried to remain mindful of these potential biases during data collection and analysis. Most importantly the researcher wished to present a balanced picture of patients' experiences through IOT; both positive and negative.

12.2. Methodological considerations

The thesis benefits from a retrospective account of individual patients' reflections on their heroin use and treatment history and trajectory of experiences during IOT. This differs from previous qualitative research - e.g., Romo et al. (2009) and Oviedo-Joekes et al. (2014) - in this area where patients were interviewed either during or shortly after the IOT RCT. Patients in the current thesis were interviewed a number of years following the IOT trial. Some patients remained in IOT at the time of the interview, however in all cases patients were being asked to recall events from at least several years previously – in some cases up to seven years previously. It is important to consider that patients' memories may not have always been accurate. It may have been the case that a rosy retrospection bias occurred particularly amongst those who had finished IOT and wished to return, or those who remained in IOT, and were aware that the future of IOT was under threat, or that they were on a new time-limited programme. In contrast, those with negative discharge statuses may have been more likely to present the less positive picture. However, the research aimed to represent the retrospective, views and perspectives from this cohort, rather than a factually correct description of patients' trajectory.

12.3. Summary of findings

The thesis illustrates in great detail the process of recovery and response to treatment for this sample of IOT service-users. Generalisability of findings in the preceding chapters are not always peculiar to an IOT trajectory, and in a number of cases are congruent to literature on wider Opiate Substitution Treatment research, policy and clinical practice. It was clear that there were a number of factors implicated in change and recovery for this sample and these will be outlined and discussed in the context of their particular chapter. At the end of each chapter's summary of main findings, and respective discussion of these, is a summary table detailing the implication of the results for research, policy, and clinical practice.

12.3.1. Summary and discussion of findings: A description of Injectable Opiate Heroin treatment process and the effect of treatment duration on outcome

Overall the chapter illustrated the complexity of movement amongst participants assigned to the three treatment groups in the IOT trial. In line with Haasen et al. (2007) there were a greater number of treatment drop-outs in the control conditions (in this case OOM and SIM) following randomisation than there were in the SIH condition. The trends demonstrate that those assigned to SIH treatment tended to stay in this treatment programme long-term. For those who remained in SIH treatment longer-term initial gains made were sustained, and in some cases (such as social functioning status) improved, the longer the participants remained in SIH. This is beneficial, particularly in light of the fact that van den Brink et al. (2003) find that an interruption to SIH treatment for even two months had a substantial negative impact. Additionally, in van den Brink et al. (2003), the longer participants remained in treatment the less they required the use of ancillary services. This may also explain any subsequent decrease in outcome status longer-term, and is also important to view in context of the later qualitative finding that ongoing support, post-IOT – and despite achieving abstinence - may be required.

In contrast, however, some participants discharged from treatment, and some much earlier. This provided the context to explore treatment experience and discharge trajectory in greater detail with a substantial sample, through qualitative interviewing. A striking finding from the chapter four (and the RIOTT trial data) was that in the main, patients who were assigned to non-preferred (SIM or OOM) treatment groups at treatment outset remained in these groups for six months, until they could be transferred over to SIH. It is striking that the promise of SIH was enough to keep these patients retained to treatment that (in the case of OM) had historically failed for patients. Additionally, it was notable (from figures 2-4 on pages 139-141 of chapter four) that a great number of patients moved across when they were able to. The chapter also describes some of the different clinical trajectories, such as mean dosage, and numbers receiving once a day, versus twice a day, injectable, treatment. The basic outcomes are described, and the context is set for the exploration of participant trajectories in greater detail. Further research may wish to conduct longitudinal regression analyses on the data set as a whole, in order to more reliably examine individual rates of change over time. These analyses were outside the scope of the thesis.

12.3.2. Summary and discussion of findings: Heroin use history

Chapter six addressed objective seven; to describe patients' drug use and treatment history. A number of interesting areas arose from this work, and it generated a number of areas for further exploration or of use to clinical practice and policy. The main findings are outlined and the areas of further exploration for research, clinical practice and policy are outlined in table 42.

Patients were those for whom addiction had clearly taken over their lives, and for which there had been serious consequences. Patients' lives prior to initiation in to heroin use and developing an addiction was often implicated in the drug using trajectory. One example was the implication of peer group and family members who used addictive substances. A large proportion of patients were clearly influenced by others in their initiation to heroin use – including romantic partners and peer groups. This was a factor implicated in later lapse and relapse, with patients in the goals and current situation section (chapter 11) citing the need for a more isolated and solitary life in ongoing recovery. Ascertaining this information at treatment outset is useful for an individualised programme of relapse prevention. Peer groups also had an influence; and getting in with the wrong crowd – this sometimes took place whilst the patient was in prison – was commonly reported. Patients cite that they did not have friends who did not use illicit drugs. Without role models and peer groups in other, healthier circles, the need for acceptance in to a community may have played a role in these early initiation experiences. Once again this links to later findings – such as in the impact of IOT, and the importance of the community and social side of coming to clinic - with some patients highlighting friendships with other patients, and others citing the impact of having a community of people they saw every day, who they had positive interactions with (including staff). In the 'heroin use history' chapter, the desire for a community was specifically cited. This was also in the context of broken homes and losing family members. Community is clearly important, in order to feel accepted and as a source of support. Best and Laudet (2011) outline the idea of recovery champions in recovery communities, and this may be of value in an IOT context.

Equally pertinent (and often simultaneous) were the experiences of patients who took heroin to escape the reality of their lived situation – this was also evidenced by a sample of patients who stated that they always took drugs alone. Patients also highlighted negative role models – such as family members who either used drugs or encouraged drug use by supplying drugs to patients – as normalising factors in

initiation and continuation. The effect of these significant individuals and a culture of drug use being acceptable (and normalised) may be implicated in the fact that drug use became so entrenched for this sample. It may be that only a treatment as intensive (every day attendance amongst a community of other similarly entrenched users and staff available all day every day) as IOT was able to break such entrenched patterns of use, through a social and cultural impact, as well as stability derived through sufficiently reinforcing medication and a holistic programme of care.

Clearly the community and social side of illicit drug use, and subsequent treatment, was of pertinence to some patients in this sample. This is in congruence with Best and Lubman (2012) who outline that the key predictors of recovery are active engagement in community and recovery groups. This also demonstrates the value of obtaining a heroin use history from patients in research and treatment or clinical practice in order to ascertain patterns of use and vulnerabilities, and equally where these could serve as protective factors (for example, isolation imperative for one patient's ongoing recovery, whereas a vulnerability for another). Patients highlight keeping illicit drug use a secret, particularly from family, with links to later findings that patients' goals at various stages were to repair fractured familial relationships. In so doing patients would demonstrate to family members that they had changed, and were no longer using illicit heroin. Family approval was clearly important for a sample of patients, at various stages of the trajectory.

Patients also highlighted negative life events that occurred at the time that use began. Patients' vulnerability was clear – with very difficult and unstable home environments – and these were again normalised experiences for patients. A sense of loss was clear with the implication that heroin use filled a void. Patients also outlined the continued chasing of an initial high and patients clearly highlighted how positive their – first and (sometimes) continued - experiences with heroin were. In contrast a proportion cited being fed up with illicit drug use, and the drug using lifestyle at initiation to IOT. A transition to injecting – through lack of availability of other modes of administration, or an increased tolerance and the realisation that more went further through the injected route – often preceded transition to addiction or dependence. Some patients outlined almost immediate dependence, and this may be a consequence of such difficult and unstable backgrounds and environments; the wish to escape these, and the very quick realisation that heroin achieved this. One patient highlights an immediate acknowledgement that he is going to develop a 'problem' with heroin.

Consequences of use were prominent themes and in some cases illustrated the trajectory preceding referral to IOT. Loss was a prominent theme here, with job loss and homelessness as key features of this period. Job loss was viewed as a pivotal point for some patients – and perhaps where the loss of the non-drug using identity is particularly experienced. Narratives suggested that the more a patient lost, the more entrenched their addiction became; in a catch-22 cycle. The loss of the non-using identity (perhaps as a consequence of loss of home and employment) was emphasised, particularly with the transition towards an involvement in crime. This may have become a new identity and way of life, once again indicating the significance and pertinence of holistic programmes of treatment. If wider aspects of life are not recovered and either the old identity restored, or a new identity created, patients are likely more prone to relapse, particularly in the context of a difficult and unstable situation, and the desire to escape or fill a void. Once again, this links to the effectiveness of the structure and intensity of IOT.

Some patients spoke about the previous lack of regard for victims of crime and consequence of crimes they had committed, illustrating how this developed into remorse following IOT. It may be that patients felt cared for through IOT and thus were able to connect more meaningfully to care for others, which had been absent during the chaos of a dependent heroin using trajectory and difficult life events and backgrounds. Patients found it difficult to disentangle themselves from the heroin using lifestyle they were involved in, when they felt particularly resigned to this fate. The necessity for the intensity of IOT; for creating new cultures and systems of support is emphasised.

Whilst going to prison was often the consequence of drug using and the associated lifestyle, for some it was also a place where treatment began. Going to prison was also highlighted later in interviews – in referral to IOT – as one of the reasons why patients felt motivated to make a significant change at that point; that they wished to stop cycling in and out of prison. This links to Winick's (1962) maturing out hypothesis, however for this entrenched cohort of users, success may not have been possible without the intensity of care provided by IOT and the referral trajectory may be pertinent to engagement with long-term recovery. Whilst health was clearly negatively impacted by entrenched heroin use, it was also restored and recovered to some degree as a consequence of being in IOT; once again themes at this initial stage connected to later narratives on the impact of IOT.

Similarly, patients were able to identify triggers to relapse (e.g., peer group) and protective factors (for example, dependents) at this initial stage of the trajectory, which were later supported in terms of identified triggers and protective factors, both during and beyond IOT. By the same token, patients were also able to identify periods of abstinence in their pre-IOT trajectories, such as during pregnancy or residential detox, indicating the necessity for ongoing support in order to maintain abstinence beyond these periods. It is noteworthy that for these patients residential detoxification and rehabilitation provided space for abstinence, whereas day treatment (usually methadone) did not, indicating the need for the intensity of support that IOT (and rehabilitation) provides.

An exploration of use of other drugs and alcohol revealed typologies whereby some patients used other drugs and/or alcohol – in some cases this was a gateway to heroin use – and others did not – in some cases other drugs did not achieve the desired effect provided by heroin. Throughout these narratives was a clear sense of self reflection and insight in to patients' addictive patterns. These levels of insight were likely made possible through IOT. This was an interesting element to the methodology of the thesis, whereby patients could explore their pre-IOT trajectories, with insight made possible through stability derived through IOT. Through the heroin use history chapter, the full trajectory and its sequence is clearly illustrated; from the influence of others, to consequences of use, to habitual drug use, to the loss of the non-using identity, to accessing treatment, and then the failure of conventional treatments, further consequences of illicit use, right through to referral to IOT.

Many patients highlighted that methadone was ineffective for them, with other perspectives that it was imperative to their heroin using trajectory and that without it life would be a lot more painful and difficult. One perspective was that methadone was not holistic enough and did not address the underlying cause of the addiction. This point is further supported in the impact of IOT chapter, whereby the psychological and holistic nature of IOT is illustrated by a large number of patients, as a large part of what made IOT effective. Patients appeared to have great awareness of what would successfully facilitate recovery, and the common narrative was that methadone regimens could not provide this. This may have contributed to not feeling important or valued by treatment providers. Perhaps there was a self-fulfilling prophecy at play for some patients – whereby an expectation of failure with methadone led to it becoming a reality. Belief in treatment appears to be an important dimension of subsequent success with the treatment – and this was also indicated through the expectation of success with IOT.

Patients highlighted that methadone was insufficient at filling the void, yet heroin use did fill this void. This void appeared to be psychological as well as physical and this demonstrated why an intensive, holistic, supportive, community-based (perhaps social), treatment programme was required for the recovery amongst this entrenched group of heroin users. By highlighting what was missing from patients' lives, how heroin filled these voids, and how methadone did not, illustrated what was required from treatment for this group, and perhaps why IOT was more effective.

Overall the heroin use history chapter was very useful on multiple levels. Firstly, it served as a warm up question and may have helped create rapport and trust between interviewer and respondent. Patients may have felt that their individual stories were valuable and important. Patients may have felt listened to, and not forgotten – particularly in the cases where clinics had closed or they had been discharged involuntarily from IOT. The chapter provided very valuable information on initiation to heroin use and highlighted individual vulnerabilities, these linked to later findings and narratives, and information on what facilitated abstinence. The chapter also explored the unexplored question; why methadone had historically failed for this group, directly through failings of conventional treatment, and indirectly through providing a clear picture of why use had begun, and the multiple factors which had maintained it. Understanding why previous treatment has failed is important for recovery, as is providing a space for patients to reflect upon and analyse their trajectory. The latter is also useful information for clinical practice.

Table 47 outlines the main findings from the chapter of use and relevance to research, clinical practice and policy.

Table 47. ***Heroin use history: Main findings of relevance to research, clinical practice and policy***

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
1	**Heroin use history**	Use of other drugs in initiation to heroin use	To explore the role of and use of other drugs, including potential gateway drugs, in drug treatment	R, CP
2		The role of motivation; motivation to change was a significant factor at treatment outset	To explore the individual's level of motivation prior to referral to IOT	CP, P
3		The relevance of heroin use history in subsequent treatment engagement and abstinence	To investigate the role of the heroin use history of those former entrenched heroin users who are now abstinent	R
4		The role of peers at treatment outset	To investigate the situation and role of peers at treatment outset	R, CP
		The importance of building a recovery community within treatment programmes and services	To build recovery communities within treatment programmes and services	P, CP
6		The importance of positive role models	As above, and the creation of buddies in OST/IOT	P, CP
7		The need for intensive treatment for those with entrenched heroin use histories and methadone failures	IOT made available for those with entrenched heroin using histories and methadone failures	P, CP
8		The importance of family relationships on drug use and maintenance	To incorporate (perhaps just individual level) family therapy into individual treatment where appropriate	R, P, CP
9		Methadone treatment was not holistic enough / The importance of holistic treatment programmes	The provision of individualised and holistic OST treatment programmes	P, CP
10		The need for ongoing support post-OST/IOT	The importance of relapse prevention programmes: The availability of a mechanism of support post-OST/IOT	P, CP
11		The usefulness of reflective space for patients to explore and analyse their trajectory and recovery	The importance of relapse prevention programmes: The availability of a mechanism of support post-OST/IOT	P, CP
12		The role of other drugs in ongoing recovery	Relapse prevention focus on the use of other drugs, and/or as gateway drugs.	CP

12.3.4. Summary and discussion of findings: Referral to Injectable Opiate Treatment

Chapter seven addressed objective eight; to determine patients' goals for, motivations, and expectations of IOT. A number of interesting areas arose from this work, and it generated a number of areas for further exploration or of use to clinical practice and policy. The main findings are outlined below and the areas of further exploration for research, clinical practice and policy follow, in table 48.

Referral to IOT was important for understanding how patients came to arrive at the point where they entered IOT, what motivated them, and to view this in the context of their journeys thus far; how they had come to need IOT. Motivations was the initial theme identified in the referral to IOT chapter. Patients strongly emphasised the failing of conventional treatment and the role this had in the progression towards IOT. Patients were fed up with using illicit heroin, however they were also fed up with the treatment system that they perceived had failed them to date. Motivation to recover had likely declined within conventional systems, and patients perceived that they had already tried everything available with little success. Patients felt that IOT stood out from these previous treatment experiences and perhaps crucially that they finally felt listened to, respected and had a sense of belief in the programme offered to them. Participants had a new sense of hope – and Hartnoll et al. (1998) outlined the potential role of hope and expectations on outcomes.

These are all strong psychological processes, and represent a clear shift in the trajectory of treatment and support experienced and perceived up to that point. It may be argued that this was a particularly motivated and even desperate cohort of patients, which impacted the level of engagement and determination for success with IOT. Patients previously felt misunderstood, and through being introduced to IOT perhaps felt more understood; this may have led to a positive referral process and start to treatment.

Some patients were honest about the fact that they were initially motivated by 'free heroin'. This was a crucial motivator, and trajectories illustrate - indeed in this section patients outlined – the fact that these motivations developed into a desire to make change and in some cases cease use of illicit heroin or to become completely abstinent from all opiates. One participant outlined initial reticence about IOT by virtue of the fact that it removed the hard work associated with acquiring heroin. Hartnoll et al (1980) had also proposed that users may be initially reluctant to contact a clinic.

Importantly this motivation should not be judged, and patients not labelled, at treatment outset, as the likelihood of change occurring appears to be high. It may also be that patients need to progress through particular and important stages of change before progress can take place. That 'free heroin' can serve as a strong motivating pull for getting individuals into treatment is advantageous, particularly in the context of these motivations expanding and developing over time. That IOT is viewed positively may attract a sample of those who would otherwise not engage in treatment (/again), and this is useful for policy; IOT may serve as a mechanism of initial attraction, that leads to a later programme of recovery, and perhaps abstinence. A number of patients described that they were still in a 'street drug mentality', and therefore could not make goals. This capacity for ongoing reflection is likely a very powerful force in patients' current recovery journey, commitment to illicit abstinence, and perhaps ongoing maintenance.

Within the motivations theme was the relevance of significant others. Other people were an influential factor during patients' first encounters with heroin and treatment. The peer group had a role in relapse experiences, as illustrated within the 'heroin use history' chapter, and similarly, patients were also initially introduced to IOT by others. An example includes the impact of seeing how well a partner or associate was doing in IOT. As indicated, this may also be interpreted in the context of later reports on the significance and importance of the community dimension of IOT for recovery. Clearly the social and cultural environments have a strong role in illicit drug use and indeed successful recovery. Other people had great impact at a number of stages; initiation, continuation, initiation in to treatment, and maintenance.

The IOT recovery community and other patients were a prominent feature throughout. Some patients had goals around the desire to disengage with the drugs subculture through IOT. Perhaps this was easier to conceive and accomplish within a new recovery community of individuals working towards the same goal. Perhaps the fact that staff were particularly dedicated to IOT specifically, allowed patients to feel understood, as well as a sense of belonging. Also evidenced was the impact of a perceived incongruence between the individual's goals and the perception of other patients' goals. In the cases where patients perceived that their peers were motivated only by 'free heroin', patients expressed annoyance. This criticism of others was pertinent throughout interviews, and this was perhaps very challenging to patients. The perception of a community of people all working towards the same goal may be disrupted by a perception of those who are not, threatening the equilibrium and

generating fear. This fear is understandable in the context of such difficulty and chaos that had arisen in the lives of this cohort prior to and because of their addiction.

Patients are motivated by a desire for change; perhaps for the first time. In a number of cases, IOT appeared to come along at the right time; patients had reached the end of their ability to cope with the heroin using lifestyle, and desired radical change. This illustrates the importance of timing, for greatest impact. That patients were a particularly motivated cohort may be implicated in IOT's success for this cohort. Beginning IOT before the patient is sufficiently motivated to make change may not have such a great impact, or achieve the same degree of success. Doing so could lead to a negative association with the process. Some patients had negative perceptions of IOT and it appears that it is important for these not to be judged; patients' initial perceptions are liable to change. This was illustrated through the initial desire for maintenance evolving into a desire for abstinence for a number of patients. For some patients the desire for stability and normality was very apparent. Linked to this was the desire to leave the drugs subculture and re-enter 'normal' society. Patients wished to achieve stability in wider areas of life such as stability within their family relationships. As in Oviedo-Joekes et al. (2009) participants used their time in IOT to recover more widely.

Some patients expressed fears over the removal of IOT. This was further emphasised through narratives on perceptions that IOT would be a maintenance treatment. Other patients highlighted initial fears upon referral to IOT, such as the fear of the structure of the programme. This is useful to gauge and highlights the importance and potential impact of conversations patients have at the referral stage. Whilst some patients clearly wanted to move away from the heroin using lifestyle, others were initially put off precisely because IOT removed the lifestyle aspects (such as effort put in to obtaining it) associated with acquiring heroin. At this early stage this perhaps detrimentally affected the heroin using identity which the patient had been attached to for so long. For these patients, as well as for those who wished to move away from the heroin using lifestyle, IOT offers a subtle, private treatment, without the judgement from wider society (such as that which may be apparent in a GP surgery or pharmacy for methadone prescription and consumption). Table 48 outlines the main findings and their implication for research, clinical practice and policy.

Table 48. ***Referral to Injectable Opiate Treatment: Main findings of relevance to research, clinical practice and policy***

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
1	**Referral to IOT**	The complexity of initial motivations and goals	Motivations, goals and fears explored at treatment outset, and throughout treatment	CP
2		'Free heroin' may be an initial attraction to patients entering IOT	A non-judgemental treatment ethos/service that allows for changing and evolving motivations and goals	CP, P
3		Entrenched heroin users may require long-term IOT	Provisions for long-term (yet finite) IOT for those with entrenched histories	P
4		Confidence levels may be low at treatment outset	Therapeutic work on confidence at treatment outset and throughout IOT	CP, P
5		A sense of hope was linked to change	Exploring and developing hope at treatment outset, and throughout IOT	CP
6		The power and strength of reflective space	Provision of space and opportunity for ongoing reflection about the recovery process, during and post-IOT	CP, P
7		The desire for re-integrative, holistic recovery	Provision of IOT and OST recovery programmes that address ongoing holistic needs of service users.	CP, P

12.3.5. Summary and discussion of findings: Experience of IOT

Chapter eight addressed objectives nine and ten; to explore patients' experience with IOT; and to explore patients' satisfaction with IOT. A number of interesting areas arose from this work, and it generated a number of areas for further exploration or of use to clinical practice and policy. The main findings are outlined below and the areas identified for further exploration for research, clinical practice and policy follow, in table 49.

Medical and clinical aspects of receiving IOT were important, encompassing the fact that SIH was satisfactory, and that it was very different to illicit heroin. Overall there were very mixed perceptions about this. It was interesting to find that whilst patients stated that they would not actively purchase medicinal diamorphine for recreational purposes, it was perceived as satisfactory enough that they did not need to use illicit heroin. Other perspectives were that it was superior to illicit heroin, and one of the particularly positive dimensions of this treatment was the security of knowing that the drug was clinically pure; patients highlighted that illicit heroin was often mixed with other substances. A few patients outlined that initially they continued to use illicit heroin and described that they submitted false urine samples. Furthermore, additional doses of methadone that patients were prescribed received a very mixed response. Overall, patients' negative association with oral methadone endured.

In terms of future policy and practice it was very useful to discover that patients who undertook SIM treatment were generally in favour of this treatment. Several patients were unsatisfied with SIM because it did not stop the desire to use illicit heroin, or that the 'buzz' achieved was different to illicit heroin, and in some cases disappointing. It was of further use to discover that some patients on SIM did not wish to reach the level of intoxication they perceived their SIH treatment peers were reaching. This may also be linked to findings from the 'heroin use history' chapter whereby patients demonstrated that they were very motivated to make change upon entering IOT. One patient stated that the doctor had said that she was doing well on SIM, and it may be that encouragement and praise are beneficial to progress.

For policy and practice it was very useful to discover that SIM had a significant impact on a number of patients' injecting behaviours; that the fact that the treatment was injectable controlled patients' desire to inject using illicit heroin. SIM was also perceived favourably in light of the fact that, for some, SIH was not 'all that it was

hyped up to be'. It may be that this illustrated that heroin itself was also not worth chasing, acquiring, and consuming, in later stages of recovery. A number of patients outlined negative aspects of SIM treatment such as physical reactions and complications. Like SIH, SIM requires close medical scrutiny, though perhaps is not the right treatment for everyone. SIM may be better administered as a short-term treatment, with the aim of altering patients' illicit injecting behaviours. Oviedo-Joekes (2009) suggest that the promise of heroin following six months of a control condition may have kept people in the trial. This may be the case for some of those retained to SIM – and in some cases these individuals came to prefer it over SIH. Relatedly, some participants in Blanken et al. (2010) stated that they felt overly lethargic on SIH.

Achieving the right dose was unsurprisingly instrumental to a positive perception and ongoing engagement. Ease and flexibility around dose change appeared to be an illustration of something particularly meaningful to patients, such as autonomy and a good, respectful relationship with staff. Patient autonomy over dose adjustments is key in clinical practice. Patients outlined fears about clinical flexibility getting lost in clinical practice (that is, outside of a pragmatic based research trial), and therefore this flexibility and autonomy should be woven in to treatment philosophy in prescribing clinics. That patients compared routinely provided IOT to IOT that was provided as part of a research trial (RIOTT) was a common comparison throughout interviews. As highlighted in the introduction – and by Uchtenhagen (2015) - effectiveness of treatment in real-world conditions may differ from efficacy under experimental conditions.

Some patients began using illicit heroin again when their dose was reduced. Progressing to IM administration appears to be important, with some patients outlining the resultant psychological move away from attachment to illicit injecting. The need for a patient, individually-paced regimen is illustrated. It took time for the IOT experience to become the patients' new culture, and ultimately the development of a stable life outside of both cultures. Sufficient time for this period of adjustment is key. In support, Oviedo-Joekes et al. (2009) outline a new culture of law abiding created by participants in their clinic.

The clinical injecting environment was important, and a source of stability and security for patients. Oviedo-Joekes et al. (2014) find that participants found the supervised model stringent but provided valuable stability to their lives. This encompassed having caring staff, and prevented worries about overdose. It also removed the association with heroin as a 'way of life'; which was useful. Attending the clinic for doses in the

longer-term received mixed responses, with some patients happy with it, and others coming to find it burdensome. This is in congruence with Allsop (1997) who proposes the pertinence of context and environment to recovery.

Trust and support from staff and keyworker was vital. When this was perceived it was healing and satisfactory to patients and when not present patients perceived that this undermined their recovery efforts and even led to a desire to use illicit heroin. Therapeutic alliance and good relationships between staff and service-users should be key in IOT delivery, and woven into policy and clinic ethos. Community dynamics were key for some patients, indicating the value of efforts to cultivate a supportive peer environment in clinics. The cultivation of gratitude for staff, support and help through IOT was of pertinence. Gratitude may be a concept that could be usefully worked with and drawn out through therapeutic involvement and groups.

The person-centred nature of the treatment was key. It is important that this ethos is maintained through future practice. Patients were able to examine their relationship with heroin and feel that they were the ones driving decisions about change. This had a profound level of impact on engagement with recovery and continued goals and changes. That service-users are given a voice through service-user involvement is a really important practice. It should be a genuine role whereby service users can see changes that are taking place; otherwise service-user autonomy may be perceived as illusory. Being coerced into making changes was sometimes detrimental to patient satisfaction and progress. This accords with Ward et al.'s (1999) guidance that problems arise if OST dosage is reduced or premature abstinence encouraged. In practice patients should never be coerced into progressing before they are ready. Patients came to realise that treatment trajectories had to be individualised, however at some stage this caused confusion; therefore, future practice should make this more explicit. This finding aligns with Edwards' (1987) description of the pertinence of individual idiosyncrasies, and thus the need for the conception of recovery as a personal and individual journey.

There was a high degree of anxiety about detoxing. Perhaps a clear timeline that was open to changes during the treatment trajectory may go some way towards alleviating these anxieties. If the conversations about detox are introduced gently, but earlier, patients may not feel so anxious about the idea of it. However this would need to take in to account both the flexibility of pace relevant to individual patients, and patient autonomy over treatment decisions. Both of these concepts should be made explicit to patients in the course of their treatment. Treatment exit may be a particularly

difficult or unstable time for service-users, and this should be monitored both at the time of discharge and beyond. Increased support during these processes may be beneficial.

Overall, patient satisfaction was one of the main themes across the sample as a whole. Ultimately, it was satisfaction with treatment that kept service-users engaged with and enthusiastic about their recovery; and this must be prioritised in clinical practice. Patients were grateful for the injectable and holistic nature of the regimen and demonstrated the pertinence of the link between pharmacological and psychological recovery – whereby the pharmacological treatment provided space for patients to stabilise and make psychological changes. This was an overall theme across the research. The underlying narrative was the synergy between pharmacological treatment and the more holistic aspects of recovery, such as engaging with psychotherapies and stabilising housing, through the various support mechanisms. By reducing the chaos associated with acquiring and taking illicit drugs, there was room for more long-term, psychological and holistic engagement with recovery, across various aspects of life. Table 49 outlines the main findings and their implication for research, clinical practice and policy.

Table 49. ***Experience of Injectable Opiate Treatment: Main findings of relevance to research, clinical practice and policy***

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
1	**Experience of IOT**	SIM may be an acceptable substitute to SIH, which is more effective than OM	SIM may usefully be employed in clinical practice	CP, P
2		SIM was acceptable and severed the connection to illicit heroin injecting	SIM may be prescribed as a short-term maintenance treatment with the aim of altering users' relationship with illicit injecting	R, CP, P
3		IM injecting was an acceptable route of administration that patients came to prefer over IV injecting	Research to determine if there are differences in outcome across the two routes of administration	R, CP, P
4		The importance of dose alterations until stabilised	Dose alterations must always be possible	CP, P
5		The importance of service-user autonomy over dose change decisions	Dose adjustments must be service-user led, and decisions never coercive	CP. P
6		Unwanted dose reductions may lead to relapse	Dosage should not be reduced against service-user's wishes	CP, P
7		Once a day dosing is acceptable for a number of patients	Once a day dosing may be sufficient in clinical practice	CP. P
8		The psychosocial dimension of IOT is crucial to effectiveness and outcomes	The psychosocial dimension of treatment must be employed in IOT practice	CP, P
9		Therapeutic alliance and rapport with keyworker and staff is key	Therapeutic alliance and good relationships with service users must be prioritised in clinical practice	CP, P
10		Ruptures to service-user/staff relationship can lead to lapse/relapse	Service user/staff relationship ruptures must be repaired as a priority	CP, P

11		Community dynamics and support from other service-users are key	Services should encourage, and provide resources for, mutual aid	CP, P
12		Service-user autonomy and control over treatment decisions is key	An ethos of service-user autonomy and control over treatment decisions must be employed in policy and clinical practice	CP, P
13		Service-user involvement is important	Service-user involvement or mechanisms by which service-users can feed-in and contribute to service delivery should be in operation	CP, P
14		Patients fear relapse	Fears should be explored on an ongoing basis with service-users in key-work sessions or psychotherapy	CP, P
15		Patients experience ambivalence about abstinence	Ambivalence should be explored on an ongoing basis, through relapse prevention groups and/or individual therapy and key-work sessions	CP, P
16		Patients experience anxiety about leaving IOT	Anxiety about leaving IOT should be explored and appropriate psychological interventions incorporated into treatment. Time-limited IOT with a clearly planned trajectory and stipulated end date may reduce anxieties about leaving IOT for some service-users. Trajectories must be flexible to change in accordance with individual need.	CP, P
17		Patients appreciated the receipt of clinically pure heroin	Continued provision of medicinal heroin treatment	CP
18		Patients needed time to adapt to the IOT regimen	Regimens should allow time for a period of adjustment	CP
19		Some patients ultimately found the need for clinic attendance for IOT doses burdensome to their schedule	Shorter-term IOT may be appropriate for some service-users, particularly where holistic gains are made quickly, in wider areas of life.	CP, P
20		An overall theme was synergy between pharmacological and psychosocial treatment provisions	The ethos of multidisciplinary service-delivery should apply to all IOT and OST treatment.	CP, P

12.3.6. Summary and discussion of findings: Impact of IOT

Chapter nine addressed objectives ten and eleven; to explore patients' satisfaction with IOT; and to explore patients' views on impact of IOT. A number of interesting areas arose from this work, and it generated a number of areas for further exploration, or use to clinical practice and policy. The main findings are outlined below and the areas identified for further exploration for research, clinical practice and policy follow, in table 50.

The cessation or reduction of use of illicit heroin was a prominent theme. Patients stopped using heroin at differing points in the trajectory. For some patients this was almost immediate, for others a period of adjusting to IOT and the routine was necessary. For some patients this was maintained over time, and in a number of cases up until the point of interview - with the firm resolution that the patient would not go back to using illicit heroin. Several patients had achieved abstinence-based recovery, and were no longer receiving maintenance treatment of any kind. Interestingly this applied to one negative discharger. Overall, the trajectory of harm caused by illicit heroin use and the associated lifestyle was interrupted by IOT. This accords with quantitative findings (such as van den Brink et al.'s, 2003 finding that harm reduction and crime reduced in the SIH group. Therefore, even though all patients did not achieve complete abstinence, their patterns of illicit heroin use were significantly and positively altered through undertaking IOT, which allowed for drastic (positive and healthy) changes to their lives. These findings should also be considered in the context of the idea that recovery is more than just abstinence (e.g., Neale, 2012).

Family relationships improved as a consequence of IOT, and like a number of other areas of improvement, this new and enriched relationship then became a protective factor from subsequent lapse and relapse. The same process was in operation with courses and education – these were achievable due to the stability provided by IOT, and subsequently became protective factors against lapse and relapse. That participants highlighted striving towards, engaging with, and enjoying education and courses accords with the NTA (2012) illustration of the pertinence of those in recovery continuing to learn. Patients found enjoyment and motivation from these relationships, activities and new peer groups, and did not want to jeopardise them. These activities may have also filled the void left by the removal of illicit drug taking. Peer groups had a role to play, and these were often made through hobbies, activities,

education and courses and work. These connections became important, healthy bonds were formed, and crucially, patients were accepted by these new groups, which was a particularly positive experience for patients. This accords with Best and Laudet (2011) who state that recovery is contagious – that there is a positive impact on both families and communities - and also Romo et al.'s (2009) qualitative work illustrating the impact on families and their altered perception of the heroin using relative following their benefitting from the medicinal treatment programme.

Patients developed a new level of consciousness around harm reduction and health. Patients were more aware of the potential for harm, whereas in the past this awareness was masked by the chaos and instability that marked patients' lives through illicit heroin use. Patients were no longer cycling in and out of prison, and developed a strong commitment to stay out of prison; again a new awareness appeared to develop, whereby patients had time and space to reflect on the fact that life outside of prison was better, and that life had something to offer them. Additionally, patients took pride in creating and maintaining a nice home that they were proud of.

Patients were also proud of the progress they had made through IOT. Patients expressed that they were committed to the programme. Like the participants in Oviedo-Joekes et al.'s (2014) qualitative research, participants were happy to be able to contribute to IOT's evidence base. Participants were amongst a community of others – as well as caring staff looking after them – who were all working towards the same goal. For these reasons, patients became irritated when confronted with others in their IOT community who were not engaging appropriately. Patients perceived that their health was protected by the system of care offered by IOT – sometimes in the here and now, for example patients who were sent to A&E upon presentation at the IOT clinic; sometimes more holistically, for example, working with a dietician for weight loss; and sometimes directly such as through reducing the harms cause by illicit injecting.

Patients perceived great stability and did not want to return to their old lives. Patients outlined general feelings of stability as well as stability that had been created over time, such as through the creation of a nice home. Patients also made improvements to their physical appearance, and all of these aspects served to make patients feel accepted by, and integrated back in to, society. IOT was clearly a process of progress, with various dimensions of improvement contributing to, and maintaining, others.

Overall patients either were, or became, an extremely reflective and self-aware population. Drug users in recovery *per se* are likely to be a reflective population, since

they have to think about and share their story every time they enter treatment, and throughout treatment either with keyworkers, therapists or in mutual aid groups. That said, the IOT sample interviewed appeared to have really thought about their responses to questions in qualitative interviews. IOT was close to patients' hearts and it very much felt like patients wished to show both IOT and their individual progress in a positive light. The process of IOT likely contributes to this wish; patients are cared for 365 days a year, in some cases, for up to seven years. The intensity of this treatment, and the impact of this, has been starkly illustrated. Reflection was not always positive for patients – for example, the awareness that they might still be judged by others, but it was clear that patients had some degree of resilience to this. Patients expressed gratitude for the programme, the care that they had received, and were grateful that the damage they had caused themselves was not worse than it was.

The symbiotic nature of the impact of IOT and protective factors – i.e., that the achievements that arose as a consequence of IOT later became protective factors to relapse, was a key finding. Additionally, that IOT interrupted the cycle of chaos and harm and altered patients drug taking behaviours, and perceptions of what was important to them. A new or increased awareness of the potential harm caused by illicit heroin use was created, and the opportunity to engage in activities which subsequently became more important than taking illicit heroin. Table 50 outlines the main findings and their implication for research, clinical practice and policy.

Table 50. ***Impact of Injectable Opiate Treatment: Main findings of relevance to research, clinical practice and policy***

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
1	**Impact of IOT**	Cessation of use of illicit heroin occurred at different points for different patients	There is a need for ongoing person-centred, flexible, individualised IOT programmes	CP, P
2		The routine created by the requirement for daily attendance gave patients a new sense of importance	There is a need for the provision of intensive treatment programmes requiring a high level of engagement and involvement	CP, P
3		Areas of gain through the impact of IOT became protective factors from relapse	The collaborative identification of protective factors during OST and IOT, and a celebration of any successes achieved through OST and IOT.	CP, P
4		Intensive treatment was necessary for self-awareness and ongoing recovery	The provision of intensive psychosocial OST (or IOT) programmes	CP, P

12.3.7. Summary and discussion of findings: Recovery

Chapter ten addressed objective twelve; to explore patients' views of, and goals for, their recovery. A number of interesting areas arose from this work, and it generated several areas for further exploration or of use to clinical practice and policy. The main findings are outlined below and the areas identified for further exploration for research, clinical practice and policy follow, in table 51.

Recovery was most prominently conceived as an individualised process. Specific ideas of relevance to policy and clinical practice was the conception that patients should be profiled at treatment outset and then again during treatment in order to map out an individual trajectory that the patient can work towards. This was an interesting idea, particularly since patients overall tended to celebrate the holistic and individualised nature of the care they received through IOT. It perhaps suggests the benefit of a time-limited regimen, with treatment length and exit strategy made explicit to patients at treatment outset. This would need to encompass important dimensions of care such as therapeutic alliance and unconditional positive regard, to ensure patients feel sufficiently supported and not coerced through the regimen. That recovery was conceptualised by patients as an individualised process was in congruence with Moos (2003) who argued for a specific focus on recovery, with specific and individualised treatment goals.

Patients expressed much anxiety at the prospect of IOT ending, and this applied in the main, to long-term IOTs. Perhaps if treatment was explicitly time limited from the outset, this would help reduce anxiety about treatment ending. One must also consider earlier findings that suggested that a long-term regimen was required, by virtue of the fact that the addiction had been long-term. Overall, patients greatly emphasised that recovery is individualised, and outlined the necessity for individualised areas of holistic focus.

Patients particularly emphasised stability and functioning as overall components of what recovery meant to them. The desire to be and feel normal was really important to patients. This appeared to reflect the overarching desire to reintegrate into society. Patients conceived, and wanted, to function as part of society. Patients' emphasised the point at which the sense of self begins to change. One patient identified that in recovery life becomes more interesting as the drug becomes more boring. The IOT programme allowed patients to ask themselves what recovery meant to them – and

this reflection was perhaps given more attention by virtue of the process of taking part in the qualitative interview. In the previous chapter; impact of IOT, some patients outlined a renewed sense of 'self-importance' which they had never experienced before.

Work and employment was an aspect that carried great weight in the overall perception of recovery for patients. It emphasised the change to patients' priorities, and focussing on and thinking about something important – that was not heroin – was an important component of recovery for patients. This is corroborated by Verthein et al. (2013) who propose that the main influencing factor for social integration was the ability to work. Linked to this idea was a reclaiming of power; no longer being dependent on a substance that controlled and dominated their lives.

Patients emphasised the present moment focus to their conceptions of recovery. Patients viewed recovery as an ongoing journey, and were committed to the journey. Similarly, Best and Laudet (2011) outline that recovery is an ongoing journey rather than an end state. Recovery also involved the examination of the harm they had caused to themselves through illicit drug use, to date, and an ability to consciously halt this trajectory of harm and change direction. It was interesting that the conception of health and harm reduction as a sufficient recovery goal was expressed mainly by negative dischargers. Several patients outlined the individualised nature of the programme, and the point at which they had conscious awareness that patients may appear to receive differential treatment on the basis that they were not at the same stage in the treatment trajectory. It may be that health and harm reduction were earlier stages of importance for patients who had already achieved some degree of stability in these areas. It may also be that discharging from IOT prematurely had a negative impact on patients' health, hence this being an area of importance for this group.

In terms of illicit drug use there were mixed ideas about what constituted recovery; with some patients perceiving that ongoing maintenance treatment was appropriate and others who viewed total abstinence from all opiates as recovery. It was fascinating to hear from those who conceived work as a component of being recovered, in the context of ongoing maintenance (and specifically IOT). These patients conceived reintegration and functioning as the most important dimensions of recovery, but that IOT enabled this functioning.

The process of recovery involved some degree of pain for some patients, specifically the awareness of one's psychology. This led to another important idea, which was the need for ongoing support (perhaps even once patients had detoxed and left

treatment centres). Other patients outlined that ongoing support was their vision of recovery, however this support needed to comprise the person-centred elements that characterised IOT for these patients – encompassing realistic, non-coercive goal-setting. Some patients perceived that ongoing psychological input was important. In clinical practice this may comprise the provision of ongoing therapy for those who have discharged from IOT or other maintenance treatment. Acceptance and Commitment Therapy (ACT) might be an appropriate therapeutic modality for those who have achieved stability in wider areas of life, and who have ceased use of illicit drugs. Related to this was a fairly prominent conception of self-esteem and the role this had in patients' ideas about what recovery constituted. Here again the relevance of psychological or therapeutic input is highlighted. At a certain stage in the recovery trajectory therapeutic programmes that aim to work with self-esteem may be useful. Encompassed within this – and outlined by patients – was the value and relevance of making goals; and reaching a stage where making and achieving goals is possible. Therapies that focus on goal setting, and exploring and enhancing self-esteem – such as Cognitive Behavioural Therapeutic (CBT) modalities - may be beneficial at this more advanced stage of recovery for service-users.

Finally, patients outlined the pertinence of social contacts and the relevance of how they were perceived by the outside world (e.g., similar to Romo et al., 2009 and Laudet's, 2007 description of the pertinence of how the user perceives wider society perceive him/her). The overall vision involved a complete transformation of one's life, which resulted in both a change to how patients viewed themselves, as well as a change to how they perceived they were viewed by the world around them.

At various stages of interviews – i.e., not necessarily in direct response to questions asking patients about their views on what recovery was in an IOT context – patients outlined various barriers to recovery. Various difficulties arose for patients despite the enormous gains that were made overall. Difficult interpersonal relationships continued, housing issues arose, and illicit drug use continued – albeit on a smaller scale – for some patients. It is useful to have this information in order to pre-empt areas of difficulty in clinical practice and continue to focus on these areas where necessary. Once again, the need for ongoing support (in some cases) is demonstrated. Given how much patients benefitted from the community of other patients undertaking IOT, mutual aid groups for these cohorts may be a beneficial and cost effective way to implement ongoing support programmes within services. Patients may benefit from continued support from those working towards the same goal, and who share some of their experiences.

Finally, the fear of IOT ending was highlighted as a prominent and pertinent difficulty for patients. This perhaps provides evidence for the benefit of a time-limited programme of IOT, with the end date clearly communicated to patients at treatment outset. Thereby goals could be collaboratively devised at appropriate junctures of treatment, with a mechanism for ongoing support once the IOT aspect of the treatment trajectory had been completed by patients. Table 51 outlines the main findings and their implication for research, clinical practice and policy.

Table 51. Recovery: Main findings of relevance to policy and clinical practice

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
	Recovery			
1		Patients made several mentions to the need for ongoing support during recovery, and post-IOT	Ongoing programmes of therapeutic and mutual aid support (programmes to incorporate an exploration of the individual's conception of recovery; reintegration programmes; goal-setting; opportunities for reflective space; work on self-esteem and other cognitions; and which celebrate successes).	CP, P
2		Recovery is individualised and patients should be profiled at treatment outset and at various junctures for the duration of treatment	An individualised mapping of the recovery trajectory at treatment outset; with a stipulated treatment length and exit strategy made explicit.	CP, P

12.3.8. Summary and discussion of findings: Current situation and goals for the future

Chapter eleven addressed objective twelve; to explore patients' views of, and goals for, their recovery. A number of interesting areas arose from this work, and it generated several areas for further exploration or of use to clinical practice and policy. The main findings are outlined below and the areas identified for further exploration for research, clinical practice and policy follow, in table 52.

The chapter outlining the current situation for patients illustrated in further detail the impact of IOT longer term, however, what the situation is for patients following the closure of IOT clinics is at present unknown. The current situation chapter highlighted that patients experienced instability and difficulty in their lives despite, and since, IOT, but that the extent of difficulty and instability was less impactful than the situation prior to, and upon, referral to IOT. It was interesting to discover that for some patients, current worry and difficulty arose from ventures and responsibilities that were perhaps made possible by the stability created during IOT. For example, worries about unwell children and university courses. Other issues of worry and instability included domestic violence and psychological disorders and distress.

The need for a service of current and ongoing support is identified. Despite stability, and in some cases abstinence-based recovery, the UK IOT sample were a particularly vulnerable population with incredibly unstable and difficult pasts. Therefore, the focus on reducing or ceasing illicit drug use, obtaining stable housing, and undertaking voluntary or paid work may not be as beneficial without the provision of ongoing support. Uchtenhagen (2015) made the worthwhile and pertinent point that by discharging a patient once they achieve abstinence may be just at the point when the individual needs help the most. The chapter illustrated unforeseen difficulties such as psychological difficulties experienced during the detox process. This is also in congruence with Neale et al.'s (2012) exploration of recovery, which details the experience of emotional changes as a prominent overall theme.

Arising within some narratives was a sense of resignation over unfulfilled aspirations and goals. The feeling that these goals would likely remain unfulfilled was described. Once again ongoing therapeutic support encompassing self-esteem work may be a suitable intervention with this sample. A prominent theme was that whilst there were ongoing areas of difficulty, patients asserted that their situation could be much worse. Whilst illicit drug use was a feature of patients' current situation, in a number of cases

this was described as unproblematic, less frequent or involved drugs other than heroin, such as cannabis. It is clear that IOT altered this sample's pattern of illicit drug use in the longer-term. Other patients describe that the period of IOT temporarily altered their pattern of illicit drug use, however in the present day illicit drug use persisted to some extent. This applied across all typologies. Table 52 outlines the main findings and their implication for research, clinical practice and policy.

Table 52. ***Current situation and goals for the future: Main findings of relevance to research, clinical practice and policy***

Reference	Chapter title	Finding	Recommendation	Implication: Research (R); Clinical Practice (CP); Policy (P)
	Current situation and goals for the future			
1		Patients described unfulfilled dreams and goals	Ongoing support for service-users, following IOT/OST (as previously described)	CP, P
2		Patients described being resigned to the fact that they would not achieve current goals	Support programmes to concentrate on working with service-users' self-esteem	CP, P
3		Patients' current situation – following IOT clinic closures – is unknown	Follow-up research (or audit) with former UK IOT patients to ascertain current situation, drug use status, and treatment status.	R

12.4. Implication for future research

Some of the qualitative patients had been in IOT for a period of seven years by the time of the qualitative interviews. At the time of interview other patients had eighteen months of treatment left (i.e., in Brighton), others had been discharged from treatment (e.g., Darlington), and others were aware that the end of IOT was imminent but they did not know exactly when this would be (i.e., London – in this case the clinics did close 14 months after the end of qualitative interviewing). Of particular interest and usefulness would be to follow-up with this pool of patients and monitor outcomes – both quantitative and qualitative – following the closure of IOT clinics and the end of this treatment. It would be useful and interesting to gauge if patients were currently retained in maintenance treatments and if so, which. It would be useful to gauge levels of current illicit drug use, and how patients perceived their situation post-IOT. For patients who had achieved goals and dreams – such as relationship goals, housing goals, employment goals, and enrolment in education and courses – it would be useful to ascertain whether these goals had been achieved (for example, had courses been completed, and were patients still in employment?) - and what effect the ending of IOT had had on patients.

The stage at which patients were discharged from IOT may have had a role to play in whether illicit drug cessation would be maintained longer-term. There was a lot of motivation to remain abstinent from illicit heroin, and to maintain stability across the sample. In light of these aspirations it would be useful and interesting to conduct follow-up research with the UK IOT sample to ascertain whether these goals were achieved following discharge from IOT and IOT clinic closures. NTA (2012) describe that it is difficult to answer the question of how many people recover, without a much longer follow-up. The next stage of research might be a specific time-limited IOT trial with clear person-centred exit strategies in place from the beginning, and scope to follow individuals up for a great number of years during and following IOT. Additionally, the quantitative findings - and perhaps those of others studies (such as van den Brink, 2003) – may suggest that generic quality of life measures may not be sensitive or appropriate enough for an injecting drug using population. Efforts may be focussed on designing and validating specific quality of life measures for these samples. Future work may also wish to explore operational differences across treatment clinics, with larger, more balanced (per site) samples.

There are a number of useful findings, not just for the IOT field, but for the field of addiction treatment more generally, such as the need for individually tailored

treatment and recovery programmes, psychosocial treatment, and an ethos of person-centred care.

12.5. Overall summary

As outlined by Strang et al. (2012) IOT by its very nature attracts attention and controversy (e.g., appendix 3), therefore a more complex picture of what we know about it is required. The thesis goes some way to achieve this. Patients were those with very difficult backgrounds and pasts. Addiction took over the lives of these patients due to difficult pasts and life events. The lives of this group of heroin users was strongly impacted by habitual heroin dependence, and patients did not have access to positive role models or non-heroin using peers. The impact of social connections and support was illustrated at every stage of the trajectory by patients. Drug use was normalised and use became entrenched. Patients suffered a great deal of loss as a result of their illicit heroin use, and did not respond to conventional treatment programmes such as methadone. Patients eventually reached the end of the line with the trajectory of harm caused by illicit drug use and health and criminal consequences. Overall the heroin use history chapter was a positive mechanism for patients to relax in to the task of sharing their story.

At referral to IOT the failings of conventional treatment were strong motivators to patients to enter IOT. Patients were very unhappy with both illicit heroin use and conventional opiate substitution treatments which had not been successful for them. As illustrated by the NTA (2003) there was a need to probe what causes treatment failure. IOT was perceived as a treatment which addressed the needs of individuals. Patients were particularly motivated to make change. Sometimes free heroin drew patients to IOT. In light of these motivations evolving and changing, this is a positive finding as it serves as an effective mechanism by which patients may engage with effective treatment. The social and cultural environment is important at every stage of recovery for patients, and patients were motivated to enter IOT by other individuals. Some patients initially feared the structure of IOT, and this evolved to become one of the aspects of IOT that made it so effective for patients.

The SIH medication received mixed responses. Patients stated that they would not purchase SIH for recreational use, however it was most often interpreted more favourably than both oral methadone and illicit heroin. Overall it alleviated the desire to consume illicit heroin. Responses to SIM treatment were also mixed, with some reporting adverse reactions to the medication, and others who preferred it to SIH. In the latter cases the effect was not as intense as SIH and this was preferred. On a psychosocial level, autonomy over treatment decisions was key for patients. That treatment was person-centred was also imperative. Much emphasis was placed on

delivery of a patient, individually-paced regimen. Trust and support from staff was also vital for patients' progress. Community dynamics were also key – illustrating the importance of the social dimension of treatment and care patients received. Increased support during stages of detox may be important. Overall, time-limited programmes may be beneficial, with sufficient flexibility to meet the needs of individuals, and treatment exit mapped out at treatment outset. Treatment satisfaction was key to recovery and encompassed many areas of importance. Overall the synergy between pharmacology and the psychosocial is illustrated through IOT, and patients' perceptions of what made IOT effective. Perneger et al. (1998) outline differentiation between specific effects of heroin administration and those of ancillary services; the thesis goes some way in differentiating these individual processes, concluding that both are fundamental but the psychosocial much more instrumental than might be first thought.

Overall, there was a need for a period of adjustment to IOT. Some patients became completely abstinent, and some maintained low levels of illicit drug use. Some patients achieved cessation from illicit drugs immediately, and others took some time to completely stop illicit drug use. Overall, the trajectory of harm was interrupted for individuals. Areas of improvement obtained through the stability IOT provided later became protective factors from lapse and relapse. Peer group was important again; for both maintenance (by virtue of new healthy connections) and relapse prevention (by avoiding old connections). Patients had pride in their progress, and in specific areas of individual success. Overall, patients were very reflective respondents, though this reflective capacity sometimes uncovered new areas of pain for patients.

Recovery was a distinctly individualised process, and encompassed stability and functioning; reintegration; a new self-identity; a new sense of self; reflective space; and was an ongoing journey. In congruence, Laudet (2007) outlines that recovery is an ongoing process of change and of reclaiming the self. Patients had mixed ideas about the role of abstinence and maintenance treatment in the recovery journey, and this again links to recovery viewed as an individualised process. The need for ongoing support, even when IOT has ended, was made apparent; but that which encompasses the factors that made IOT a success for patients. Particularly, that it is person-centred; flexible; individualised; patient; and emphasises therapeutic alliance. Mutual aid may be beneficial in support programmes, given how prominent the social and cultural impact was at various stages of the trajectory: i.e., initiation in to drug use; referral to IOT; maintenance; lapse/relapse; and recovery. Patients need to feel,

and be encouraged to make and achieve goals, and recovery involves a change to how they - and others - perceive themselves.

Areas of difficulty continued for patients, despite the stability and gains achieved through IOT. This demonstrates that the road to well-being is rarely linear and ongoing support is appropriate. Current difficulty included interpersonal and relationships; housing; psychological; low level illicit drug use; and the need for ongoing support. Current worries arose from new ventures and relationships, however, overall, IOT altered the pattern of problematic drug use for all patients. For some this involved abstinence and others occasional illicit drug use. Once again the need for individualised programmes of support is emphasised, as well as research methodologies which are able to capture individual areas of gain and difficulty.

Finally, the typologies were not utilised as a means by which to structure the qualitative findings, however, they did indicate to some degree that clinic closures and negative dischargers had slightly less to reflect upon about their experience of IOT, compared to the long-term IOTs and the positive dischargers. In terms of implication for policy and research, it may be that treatment discharge status is relevant for ongoing recovery, linking to the findings that patient autonomy and control over treatment decisions are important for the recovery trajectory. Perhaps being able to reflect, and reflect positively, on the experience of treatment may be an important factor for ongoing wellbeing and stability. Negative dischargers and clinic closures are not represented in the section on developing goals for the future. On the other hand, long-term IOTs did not mention recovery as constituting the development of a 'non-using identity', both of which are useful to work in clinical practice with patients in recovery.

12.6. Strengths of the thesis

The quantitative data demonstrated trends of improvement; overall, patients in long-term IOT were able to sustain gains made following six months of IOT. The flowcharts and description of movement illustrated the complexity of movement by patients through IOT, and the basic statistical analyses indicated that gains made within the first six months of treatment were maintained or improved upon through longer-term treatment episodes. The thesis identified that additional research may wish to expand on these analyses with longitudinal regression analyses. Overall, the context for the

qualitative work was provided through the quantitative work. The qualitative research allowed description and analyses of retrospective accounts of the entire IOT trajectory from referral to IOT, to the post-IOT situation. The thesis includes accounts from both those who were in short-term IOT (six months), long-term IOT (up to seven years), those who chose to discharge from IOT, and those who were compulsorily discharged from treatment. The researcher was independent to the original RIOTT team and thereby captured honest and candid accounts of patients' experiences. The research is the first in its field to complete such a large and comprehensive account of treatment experience and recovery in a UK IOT population. The thesis benefits from a large qualitative sample, enabling the elicitation of rich and detailed data. Findings are beneficial for both IOT research, policy and practice, and OST research, policy and practice more generally.

12.7. Operational and design limitations

The pragmatic nature of the UK IOT trial made complex quantitative analyses of outcome over time difficult, and this methodological difficulty is illustrated in the quantitative chapter. However, suggestions are made for longitudinal regression analyses of long-term IOT data in further research. These were beyond the scope and aims of the current thesis. More appropriate to the aims of the thesis was qualitative data to explore the perception and experience of IOT from the service-users' perspective. Some patients were interviewed a number of years since they had completed IOT, and for all patients interviews were conducted a number of years following their referral to IOT. For this reason, patients' memories may not be completely accurate and this should be considered when interpreting results. Case note reviews conducted prior to interviews allowed reference to these information sources during interviews and generally there was good accordance with patients' accounts of specific steps in the treatment trajectory; this was not formally analysed however. One of the original aims was to complete and analyse qualitative interviews with clinicians and nurses involved in the RIOTT trial and IOT beyond this point, yet this project was too large for inclusion in the current thesis. These data should be analysed and published as part of future research.

12.8. Generalisabilty of the results

The sample were a niche group of patients who had completed IOT in the UK. Therefore, the findings may not be generalisable to other populations and samples of drug users in treatment. However, the findings clearly have wider applicability for OST research, policy and clinical practice. The sample were a self-selecting sample and may particularly represent those with a positive perception of IOT. A large proportion of Darlington patients were not included in the recruitment, as these patients could not be located. This sample comprised those who had been involuntarily discharged from IOT, and therefore greater inclusion of this sub-sample may yield slightly different findings. As previously commented upon, there were also quite apparent geographical differences across the three locations, which may limit generalisability to other locations. Overall, those no longer in treatment were harder – in some cases impossible – to contact for recruitment. It may be the case that satisfied patients are those most likely to take part.

12.9. Final conclusions

This thesis demonstrates that in order to illustrate the complex nature of an IOT trajectory, qualitative methods in conjunction with quantitative analyses are required. The UK IOT programme was particularly complex by virtue of the fact that the trial was pragmatic and as such involved a great deal of movement through different treatment types. The thesis illustrates the complexity of movement for the UK IOT cohort and describes the treatment journey using both descriptive statistics and a very large and comprehensive qualitative project examining treatment experience and recovery. A number of important themes emerged from the qualitative interview work and these have been outlined in the discussion, with their respective implication for research, policy and clinical practice. Next steps may wish to examine post-IOT outcomes some years following patient discharge from IOT. Future policy and clinical practice should employ the ethos of good practice outlined by patients in the thesis. IOT is best delivered as an individualised treatment programme. Overall IOT should be a time-limited continued provision for those entrenched users with long-term, treatment refractory histories.

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Appendix 1 – Description of Injectable Opiate Treatment utilised in the RIOTT trial

The following information is taken from the Lintzeris et al. (2006, p. 3-28) paper and describes the details of injectable treatment received.

'High doses of injectable methadone or diamorphine.

For the Injectable Methadone group, initial doses are converted from oral to injectable methadone. Whilst there is limited evidence regarding conversions between injected and oral methadone in this population, the available data suggests that oral methadone has a mean bioavailability of approximately 80%, with large individual variation (ranging from 40 to 100% in previous research)]. Hence, the study uses a conversion formula of injected methadone dose = 0.8 × oral methadone dose (separate research underway at the National Addiction Centre is examining the bio-availaibility of injectable methadone (IM and IV) in long term oral methadone patients). Doses are subsequently titrated (generally upwards) and individualised with the aim of reducing illicit opiate use. Patients can also choose to have oral methadone supplements. Maximum doses of injectable methadone are 200 mg per day (plus up to 100 mg oral methadone), to a total dose of 300 mg per day. Injectable Diamorphine group: the dose conversions between oral methadone and injected diamorphine are based upon the work of Seidenberg et al. (1998 cited in Lintzeris et al., 2006), developed for the Swiss, and more recently used by the German and Canadian heroin trials. The dose equivalence between oral methadone and diamorphine is not linear.

At low doses, the conversion rate from oral methadone (total daily dose) to injected heroin (total daily dose) is approximately 1:3; whilst at higher doses, the conversion rate approximates 1:5. Other factors that impact upon methadone metabolism (e.g. concomitant medications, medical conditions) are taken into consideration at transfer. Doses are subsequently titrated and individualised with the aim of reducing illicit opiate use. Patients are encouraged to retain a small oral methadone dose (e.g. 20 to 40% of their initial dose) in order to prevent opiate withdrawal between injecting sessions, and to facilitate any transitions between oral methadone and injected diamorphine (effectively having a 'loading dose' of methadone). It is expected that most patients will use injected diamorphine doses in the range of 300 to 600 mg per day, with an upper total daily dose of 900 mg (450 mg per injection).

Patients can also have up to 100 mg oral methadone supplementary to diamorphine, making their total oral methadone equivalent dose approximately 300 mg. -

Supervised dosing. All doses of prescribed injectable opioids are supervised throughout the 6-month study period. Treatment typically involves once-a-day injection of methadone, or twice-a-day injection of diamorphine. Patients have a degree of autonomy in the frequency of attendance for dosing and the mix of injected opioids/oral methadone – patients unable or unwilling to attend for injectable opioid treatment have access to oral methadone doses. This flexibility of attendance for on-site injecting aims to minimize the inconvenience of IOT, and reflects that many patients entering RIOTT may not be injecting every day, and hence, it may not be therapeutically necessary for patients to increase their frequency of injecting. An example of this dosing flexibility is provided in Table 1. Patients must attend a minimum of 4-days-a-week for onsite IOT (to ensure integrity of the treatment condition). The principles of IOT used in RIOTT are consistent with recent national guidance (NTA, 2003). All doses of injectable opioids are supervised onsite in the participating clinics. Two injecting sessions operate each day, 7-days a week. Patients self-administer their injections, with the choice of intravenous, intramuscular or subcutaneous routes.

Injecting sites and routes are recorded daily, and routinely assessed throughout the trial. Medications Trial medications include (i) oral methadone solution (1 mg in 1 ml) or concentrate (10 mg in 1 ml); (ii) injected methadone ampoules (50 mg in 1 ml, 50 mg in 2 mls, 10 mg in 1 ml ampoules licensed in the UK for IM or IV injection); and (iii) diamorphine: the trial uses 10 gram freeze-dried diamorphine ampoules licensed and imported from Switzerland (Diaphin®), which are reconstituted by a trial pharmacist under aseptic conditions to a concentration of 100 mg/1 ml. Each injection of diamorphine is dispensed as a 'loaded' syringe by the pharmacist, and self-injected by the patient. The trial has a Clinical Trial Authorisation from the UK Medicine and Health Regulatory Authority for importation and use of Diaphin® ampoules. Treatment post-trial As injectable methadone and injectable diamorphine are licensed and available in Britain, the trial does not need to consider issues of 'compassionate grounds' for continuation of treatment. At the end of the 6-month study period, the nature of ongoing treatment is decided on an individual basis by clinicians in consultation with each patient, in keeping with the recent NTA Guidance Report (NTA, 2003), and subject to available clinical resources. The basis of this decision will be the extent to which each patient has demonstrated a positive clinical response and has obtained significant benefit from their study treatment.' (Lintzeris et al., 2006, p. 3-28).

Appendix 2: The step-by-step approach to conducting thematic analysis

The following approach to thematic analysis, replicates the approach outlined in Braun and Clark (2006, p. 77-101).

The research utilised as many leads as were available in making contact with patients on the IOT trial, with the aim of stopping at around N=40 interviews or when the point of data saturation was reached. In reality the pool of available patients to contact during recruitment was almost exhausted by the 41st patient and the researcher stopped at this point, also, for reasons of pragmatism; time constraints; and budgetary constraints – specifically on further travel. The entire process of analysing the data was conducted following Braun and Clark's (2006) guide – the specific steps will be reiterated here but in the context of the current study.

Stage one – Becoming familiar with the data

The data was collected and managed by a single researcher (VB). Interviews were recorded on to a digital dictaphone and were transcribed by a professional transcription company previously used by the research team. A number of interviews were spot checked for accuracy by the researcher as interviews were transcribed by an outside source. To stay familiar with the data, and prior to transcription, the researcher would first replay the interviews once they had been conducted. A verbatim account of all verbal utterances were transcribed – including words and laughter by both researcher and patient.

Thematic analysis began with the reading and re-reading of all qualitative transcripts to ensure that the researcher was immersed in the data and familiar with the depth and breadth of content. Reading was conducted in an active way, and notes were taken in margins of transcripts, on patterns and meanings. This initial reading was by means of Microsoft Word-based transcripts of the qualitative interview recordings. This initial reading served to provide the foundation for the subsequent thematic analysis. At this stage the researcher's academic supervisors also read a number of the transcripts and provisional themes and sub-themes were derived from this small sub-sample of qualitative transcripts. These initial interviews also served as pilot interviews for any changes to the interview schedule.

Stage two – Initial code generation

Once all transcripts had been read at least once and an initial list of codes were generated by the researcher – with input from academic supervisors - the initial codes were transferred to the qualitative data analysis computer software package produced by QSR International; NVivo. The researcher received training prior to this stage by QSR on using NVivo for qualitative research. Following this, all subsequent, and exhaustive, coding was conducted using NVivo. All transcripts were uploaded and the researcher coded every segment of text from each transcript. Identified codes were relevant features of the data that were interesting. These were sometimes basic segments, and always raw segments, that could be analysed meaningfully. Examples of coding segments of text are as follows.

Table 53. Examples of data coding for study two

Data extract	**Coded for**
"Well, I started when I was about 26, something like that, not knowing what I was getting into. I was just having a little toot when I finished work."	1. Initial naïveté about effects; 2. Initial sporadic use; 3. Initially smoked it; 4. Initially maintained employment.
"With foresight I wouldn't have done what I've done and I'd have stayed on it."	1. Regrets breaking rule; 2. Desire to remain in IOT for longer.

Usually this coded data differed from the units of analysis – the themes, which in many cases became broader, though in some cases coding directly translated in to an overall theme – at a later stage of the analysis. The data was coded from a data-driven rather than theory-driven approach, since the treatment and experience of treatment was novel and qualitative research in this area occupying a very small existing evidence base. The researcher worked systematically through all transcripts, giving equal attention to each item. On a practical level, through use of NVivo, segments of text are highlighted, tagged and named within each data item. Once a segment of text has been tagged and named, it appears as highlighted text in the transcript so that the researcher knows and can see that this segment of text has been coded. Therefore no text can be left out or ignored. As illustrated above in table 53, one segment of text may be tagged and named (i.e., coded) using multiple codes. The advice in Braun and Clark's (2006) paper, which the researcher adhered to, was

to code as many potential themes and patterns as possible, and to code extracts of text inclusively – i.e., by keeping a little of the surrounding data if relevant, to ensure that meaning or context is not lost (Bryman, 2001). In any case all codes and text could be linked back to patients through NVivo by means of the patient identification number. Since the research was on the individual patient's trajectory, the researcher kept in mind to retain accounts which departed from the dominant narrative in the analysis at this earlier stage also.

Stage three – Searching for themes

Phase three began when all data had been coded and there was a long list of codes in NVivo that had been identified across the dataset. This phase re-focussed the analysis at the broader level of themes, rather than codes, and involved sorting the codes in to themes, bycollating all relevant data extracts within identified themes. Here the researcher began analysing codes and considered how the different codes combined to form overarching themes. At this stage the researcher copied the list of themes over to Excel so that they could be sorted, arranged and rearranged easily. Through Excel the researcher sorted all codes in to relevant themes. Excel was extremely useful at this point – in particular the 'filter' function, whereby all grouped codes could be viewed through the filter of their respective theme. In so doing, the researcher could constantly check for coherence and logic of the group of codes to their assigned theme. The researcher also found it helpful to write the codes on paper and create mind maps of the codes to categorise them in to their relevant theme – ultimately the final list of themes, with associated code, was viewed through Excel; with each section (e.g., 'Heroin use history', 'Experience of IOT', etc.), having its own sheet in Excel. At this stage codes were organised into both main overarching themes and sub-themes.

An example appears below.

Table 54. An example of data coding and thematic analysis

Code	Sub-theme	Theme	Section/chapter code pertains to
Initially resistant to treatment	Transition to treatment	Treatment	Heroin use history
Encouraged by family	Transition to treatment	Treatment	Heroin use history
Long treatment history	Transition to treatment	Treatment	Heroin use history
Transition to treatment	Transition to treatment	Treatment	Heroin use history

As illustrated above, some initial codes went on to form main themes and some formed sub-themes. This phase culminated in a collection of themes and sub-themes, and all extracts of data which had been coded in relation to them. At this stage the researcher had a strong sense of the significance of individual themes and received guidance from academic supervisors. Also at this stage, the researcher went back to the original transcripts and checked that the sub-themes and themes that had been created were congruous with narratives within the transcripts.

Stage four – Reviewing themes

At this stage themes were refined; this involved, for example, collapsing themes where relevant and breaking themes down in to two separate themes when this made more sense. Data within themes and sub-themes were checked for logical and meaningful coherence, and also identifiable distinction from other themes and sub-themes. At this stage another Excel document was created and themes and sub-themes with respective section headings (e.g., heroin use history, experience of IOT, etc.) were entered into a visually facilitative table.

At this stage the researcher worked from both the codes – and associated segment of text – in NVivo, the list of codes – and associated theme/sub-theme in Excel - and final list of themes and sub-themes in the Excel table. This was in order to review and refine themes. Collated codes were also read and considered in terms of whether they formed a coherent pattern. Where there was a question over this, the researcher considered whether the theme itself was problematic or whether the coded extract had been assigned to the wrong theme. In some cases, a new theme was created.

The second stage of refinement was similar but applied to the dataset as a whole. The dataset was re-read to check that the themes and relevant sub-themes accurately represented meanings evident in the dataset as a whole. At this stage the researcher also checked whether any additional data within themes had been missed in earlier coding stages, in light of coding being viewed as an ongoing organic process (Braun and Clark, 2006). This process was completed when refinement stopped adding anything substantial. This stage culminated in a good understanding of what the different themes were, how they fitted together and the overall story they told about the patients' experience of IOT.

Stage five – Defining and labelling themes

At this stage the data within the themes were analysed and write-up began. The researcher referred back to collated data extracts (codes) for each theme and organised them in to a coherent and internally consistent account with the associated narrative – this also began the stage of writing up chapters. As well as presenting the data, the analysis aimed to identify what was interesting about the extract and why (Braun and Clark, 2006). For each individual theme, a detailed analysis was created, with reference to the broader overall story or narrative, and with pertinence to the research questions. In final write up and analysis, patient typology was also incorporated into the discussion of the analysis. At stage five sub-themes were refined and clarified. For example, within the 'Heroin use history' chapter, the theme 'Initiation and exposure' encompassed both sub-themes 'The influence of others' and 'Vulnerability, exposure and fatalism'. Here the researcher ensured that each theme could have its scope and content described in a few sentences, and where this was not the case further refinement was employed. All themes already had working titles, and in consultation with supervisors these were refined and clarified at various stages of drafting.

Phase 6 – Producing the report

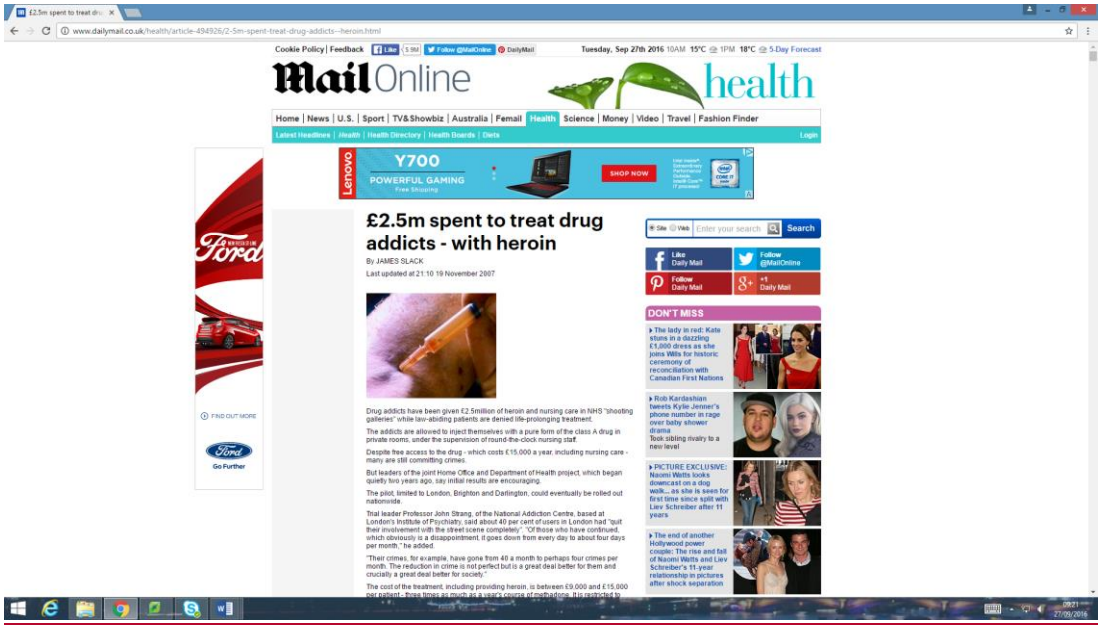
Phase six involved writing up the chapters, as has been presented herewith. This was carried out with guidance, comments and editing by academic supervisors. Vivid examples were chosen, maintaining sufficient evidence of the themes, whilst not neglecting to illustrate and discuss the less common narratives. The researcher presented both converging and diverging accounts using quotes, description of findings and narratives, and analysis. The final discussion and chapter summaries incorporated the research question and relevant objectives. The final themes were as follows (elaborated on in the relevant chapters): Heroin use history; Referral to IOT;

Experience of IOT; Impact of IOT; Recovery; and Current situation and goals for the future.

Since the process of analysis involved a relatively large sample size (N=41) of relatively long interviews (on average 45 minutes) the coding and analysis for this study took a period of 12 months to complete.

Appendix 3 – Newspaper headlines in response to the UK IOT Trial


Worst drug addicts to be given free heroin to inject under Government plans | The Sun |News - Mozilla Firefox
THE Sun
Saturday, June 29, 2013
HOME NEWS SPORT SHOWBIZ ALL
Politics Sun City Sun Says Forces Sun Justice Captain Crunch
News
'Smack' paid for by your tax
Free heroin ... government plan
By continuing to use the site, you agree to the use of cookies. You can change this and find out more by following this link.
Accept Cookies
start
14:39
Saturday
29/06/2013


Mail Online
health
£2.5m spent to treat drug addicts - with heroin
By JAMES SLACK
DON'T MISS

Appendix 4 - Full participant topic guide

1. Background

-Can you start by briefly describing your heroin use history?
-Can you briefly describe your treatment history?
-Can you tell me about your current situation:

Probe:
in relation to employment;
living/housing situation;
health.

-Do you use street heroin and/or other drugs currently? Can you tell me about your current use?
If no, when was the last time you used street drugs? Can you tell me about this situation?

2. Motivations and goals

-What prompted you to get injectable treatment?
-What were your expectations of this treatment?
-What were your goals upon entering treatment?
Additional clarification probe: what did you want / hope from this treatment?

4. Experience of treatment

-How do you feel about your experience of the treatment overall?
-How do you feel about your personal progress through this treatment?

5. Treatment medication:

-What are your views on the medication you received during IOT?
Probe: what are your views about -

1. dosage;
2. injecting site;
3. route of administration.

-Were there any changes to 1. drug, 2. dose, 3. route (of administration), or 4. (injecting) site? Addition: What were these, & when?
How did you feel about these changes?

-Did you receive supplementary methadone? What impact did this have?
-How do you feel about the length of time you were in injectable treatment?
-How did you feel about the idea of switching back to oral methadone?

6. The Clinic:

-Can you tell me about your experience of the clinic, and attending the clinic for your treatment during the injectable treatment trial?
-What was your experience of having your heroin treatment supervised at the clinic?
-Did you receive any other support from the clinic during treatment? What was your experience of this?
-How did you feel about the process of coming to the clinic for treatment?
Probe: Were there any positive / negative experiences – how, why.

-Were you involved in making decisions about your treatment? Tell me more about this - how was this?
-Did you form any social connections with people from the treatment trial? Tell me more about this? Did you see people outside the clinic?
-What was participants' behaviour like in and around the clinic?

7. Social support and social interaction:

-Did you receive any professional psychological or social help during the treatment trial? What was your experience of this?
-Did you have outside support whilst you were in treatment – tell me about this? What did other people think of you being in injectable treatment? (Family, friends, people you know – users and non-users).

8. Effect of treatment

-Were there any significant changes to your personal situation while you were in treatment (e.g., employment, family, housing, friends)? Why do you think this was? Probe: What impact did IOT have on your life?
Were any of these changes connected to treatment, do you think? In what way/how?
-Did you reduce your use of street heroin whilst you were in treatment? (Why do you think this was?)-Was there anything that specifically triggered lapse or relapse back to street heroin use?
-Did you use other drugs while in treatment? (Which, when? And why this drug?)
-Were there any physical or medical complications for you during the trial? Can you tell me about them?
-Would you change anything about your treatment decisions, or journey through this treatment?

9. The future (including goals)
-How long would you like to stay (/ would you have liked to stay) on injectable treatment?
-How do you feel about your current treatment?
-How do you feel about leaving treatment? -How do you feel about abstinence?
-Were your goals met during the course of this treatment?

10. Personal goals
-Do you have any treatment goals (for the future)? If yes, what are they?
-What would be your first choice of treatment now? Why is this?

11. Recovery
-The concept of 'Recovery' is often discussed, what are your thoughts on recovery? What is recovery? What does recovery mean to you personally? What is recovery in the context of injectable opiate treatment?

12. Conclusions and additions
Do you have any further thoughts or comments, not previously discussed?

Appendix 5 – Qualitative patient case note reviews

Appendix - Case note reviews; qualitative participants

Data was collected through the research trial at regular intervals. In addition, some clinics completed monthly medical reviews. Data was extracted from both of these sources, and where available and possible (accepting time and monetary/travel constraints) – the electronic participant journey system was also consulted for validation of this data. Some participants have more complete reviews than others, as data completeness varied across sites and participants (accepting staff shortages and participant DNAs at various points during the trial).

Periods of abstinence as reflected within these case note reviews refers to periods of abstinence whilst in OST, as this was more pertinent to this sample; those who had historically 'failed' in OST.

Case note review 1 – ID 1, participant Daniella

File item	Response
RIOTT ID	50
Qualitative ID	1
Clinic locality	London
Gender	Female
DoB	02/01/1967
Age at qualitative interview	47
Employment status	Baseline: Unemployed / sickness benefit
Parental status	3 (live elsewhere)
Treatment allocation condition	SIM
Treatment trajectory	SIM=24 months; OM=12 months
Treatment discharge status	Negative (other): hospitalised (other)
Responder status (6 months)	Unknown (clinical error)
Ethnic origin	WB
Accommodation status (baseline)	Other (unspecified)
Treatment drug on trial entry	OM
Treatment episode length (baseline)	18 months +
Dose on trial entry	65mls
How many days injected in the last month (baseline)	30
Injecting heroin (baseline)	Yes
Other regular use (baseline)	Crack/cocaine
Age of first use (heroin)	18
Age regular use	18
Age first injected	28
Age at first treatment episode	25
Number of previous treatment episodes	10
Number of periods of abstinence (from illicit, during treatment)	1
Date participant entered trial	21/05/2007
Date of qualitative interview	06/01/2014
Current treatment status (including drug and dose at qualitative interview)	OM / 50mg
Treatment preferences at baseline	1. SIH; 2. SIM; 3. OM
Treatment preferences at 3 years	Missing
Date participant left IOT	Last data collected: 17/03/2010
Treatment at 3 months	IM
Treatment at 5 months	IM
Treatment at 6 months	IM

Drug at 12 months	IM
Dose at 12 months	50mg
Additional OM at 12 months	40mg
Drug at 18 months	IM
Dose at 18 months	100mg
Additional OM at 18 months	20
Additional OM at 24 months	30mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
Groin injecting	Yes
IV or IM	Both
Drug use at baseline	Heroin=30; crack=30; cannabis=1.
Drug use at 1 month (no. of days in last 30)	Heroin=16; crack/cocaine=16; cannabis=30; alcohol=10
Drug use at 2 months	Heroin=14; crack=14; cannabis=3; alcohol=3
Drug use at 3 months	Heroin=15; crack/cocaine=15; cannabis=4; alcohol=30
Drug use at 4 months	Heroin=25; crack/cocaine=25; cannabis=6; alcohol=30
Drug use at 5 months	Heroin=16; crack/cocaine=16; cannabis=0; alcohol=30
Drug use at 6 months	Heroin=5; crack/cocaine=5; cannabis=0; alcohol=28
Drug use at 9 months	Heroin=2; crack/cocaine=30; cannabis=5
Drug use at 15 months	Heroin=4; Crack/cocaine=30; Alcohol=20
Drug use at 24 months	Heroin=0; crack/cocaine=8; alcohol=4
Drug use at 32 months	Heroin=0; crack=10; benzodiazepines=3; alcohol=10; cannabis=2

Case note review 2 – ID 2, participant Jack

File item	Response
RIOTT ID	310
Qualitative ID	2
Gender	Male
Clinic locality	Brighton
DoB	17/04/1973
Employment status	Unemployed/sickness benefit
Parental status	1 (live elsewhere)
Treatment allocation condition	SIH
Treatment trajectory	SIH=9 months; OM=6 months
Treatment discharge status	Positive: voluntary detox
Responder status (6 months)	Responder
Age at interview	41
Ethnic origin	WB
Accommodation status (baseline)	Rented (LA/HA)
Treatment drug on trial entry	OM
Treatment episode length	3-4 years
Dose on trial entry	50mls
How many days injected in the last month (baseline)	28
Injecting heroin	Yes
Other regular use	Cannabis and benzodiazepines
Age of first use (heroin)	22
Age regular use	22
Age first injected	26
Age at first treatment episode	30
Number of previous treatment episodes	1
Number of periods of abstinence	0
Date participant entered trial	23/11/2007
Date of qualitative interview	07/01/2014
Current treatment status	Out of treatment (abstinent)
Treatment preferences at baseline	1. SIH; 2. SIM; 3. OM
Treatment preferences at 45 months	1. SIH; 2. None; 3. None
Date participant left IOT	01/09/2008
Treatment at 3 months	SIH
Treatment at 5 months	SIH
Treatment at 6 months	SIH
Treatment at 12 months	OM
Dose at 12 months	60
Drug at 24 months	Treatment free (abstinent)
Illicit use through Treatment	No
Use of other drugs through Treatment	Yes
IV or IM	IV
Other clinical info	Diagnosis of depression
Drug use at 3 months	Heroin=0; Cannabis=30; Alcohol=0; Crack/cocaine=0
Drug use at 6 months	Heroin=0; Cannabis=30; Alcohol=0; Crack/cocaine=0
Drug use at 12 months	None
Drug use at 24 months	Cannabis=30; alcohol=14
Drug use at 36 months	Cannabis=30; alcohol=20

Case note review 3 – ID 3, participant Charlie

File item	Response
RIOTT ID	24
Qualitative ID	3
Gender	Male
Clinic locality	London
DoB	06/04/1965
Employment status	Unemployed/sickness benefit (baseline)
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months
Treatment discharge status	Positive (voluntary move to MXL)
Responder status (6 months)	Non-responder
Age at interview	49
Ethnic origin	WB
Drug on trial entry	OM supervised
Treatment episode length	24 months
Dose on trial entry	80mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Crack and benzodiazepines
Age of first use (heroin)	14
Age first regular use	15
Age first injected	18
Age at first treatment episode	17.5
Number of previous treatment episodes	30
Number of periods of abstinence	2
Date participant entered trial	27/04/2006
Date of qualitative interview	04/01/2014
Current treatment status	Treatment free (abstinent)
Treatment preferences at baseline	1.SIH; 2.SIM; 3.OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Last data collected at 36 months: 05/02/2010
Treatment at one month	SIH
Dose at 1 month	170mg (twice per day)
Additional OM at 1 month	40mg
Treatment at 2 months	SIH
Dose at 2 months	190 (twice per day)
Additional OM at 2 months	40mg
Treatment at 3 months	SIH
Dose at 3 months	210mg (twice per day)
Additional OM at 3 months	40mg
Treatment at 4 months	SIH
Dose at 4 months	210mg (twice per day)
Additional OM at 4 months	40mg
Treatment at 5 months	SIH
Dose at 5 months	230mg (twice per day)
Additional OM at 5 months	40mg
Treatment at 6 months	SIH
Dose at 6 months	230mg (twice per day)
Additional OM at 6 months	40mg
Treatment at 9 months	SIH
Dose at 9 months	1.240mg; 2. 250mg
Additional OM at 9 months	40mg

Drug at 12 months	SIH
Dose at 12 months	1.300mg; 2.260mg
Additional OM at 12 months	40mg
Drug at 15 months	SIH
Dose at 15 months	300mg (twice per day)
Additional OM at 15 months	40mg
Drug at 18 months	SIH
Dose at 18 months	1.300mg; 2.350mg
Additional OM at 18 months	Missing
Drug at 21 months	SIH
Dose at 21 months	1.300mg; 2.340mg
Additional OM at 21 months	30ml
Drug at 24 months	SIH
Dose at 24 months	1.310mg; 2.340mg
Additional OM at 24 months	30mg
Drug at 30 months	SIH
Dose at 30 months	1.320mg; 2.340mg
Additional MXL at 30 months	180mg
Drug at 36 months	SIH
Dose at 36 months	180mg
Additional MXL at 36 months	480mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IV
Drug use at 1 month	Heroin=26; benzodiazepines=15; crack/cocaine=26; cannabis=5; alcohol=1
Drug use at 2 months	Heroin=18; benzodiazepines=15; crack/cocaine=18; cannabis=2; alcohol=0
Drug use at 3 months	Heroin=20; benzodiazepines=1; crack/cocaine=20; cannabis=4; alcohol=0
Drug use at 4 months	Heroin=13; benzodiazepines=1; crack/cocaine=13; cannabis=2; alcohol=0
Drug use at 5 months	Heroin=12; benzodiazepines=3; crack/cocaine=12; cannabis=1; alcohol=1
Drug use at 6 months	Heroin=12; benzodiazepines=3; crack/cocaine=12; cannabis=1; alcohol=1
Drug use at 9 months	Heroin=1; crack/cocaine=1; alcohol=1; cannabis=3; benzodiazepines=0
Drug use at 12 months	Missing
Drug use at 15 months	0
Drug use at 18 months	Alcohol=2
Drug use at 21 months	0
Drug use at 24 months	0
Drug use at 30 months	0
Drug use at 36 months	Alcohol=8

Case note review 4 – ID 4, participant Jacob

File item	Response
RIOTT ID	351
Qualitative ID	4
Gender	Male
Clinic locality	Brighton
DoB	09/03/1967
Employment status	Unemployed/sickness (baseline)
Parental status	0
Accommodation status	Rented privately (lives alone)
Treatment allocation condition	SIM
Treatment trajectory	SIM: 24 months; OM at 36 months
Treatment discharge status	Negative (Other): skin reaction to SIM
Responder status (6 months)	Non-responder
Age at interview	46
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	12 months
Dose on trial entry	110mg
How many days injected in the last month (baseline)	10
Injecting heroin	Yes
Other regular use	Cannabis
Age of first use (heroin)	25
Age regular use	25
Age first injected	33
Age at first treatment episode	40
Number of previous treatment episodes	0
Number of periods of abstinence	0
Date participant entered trial	22/08/2008
Date of qualitative interview	19/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2.SIM; 3. OM
Treatment preferences at 3 years	1.SIH; 2.SIM; 3. OM
Date participant left IOT	Last data collected at 36 months (31/08/2011)
Treatment at 3 months	SIM
Dose at 3 months	100mg
OM dose	235mg
Dose at 6 months	100mg
Additional OM at 6 months	50mg
Dose at 24 months	150mg
Additional OM at 24 months	110mg
Drug at 36 months	OM
Dose at 36 months	70mg
IV or IM	IM
Drug use at 3 months	Heroin=26; crack/cocaine=2; cannabis=30
Drug use at 6 months	Heroin=30; crack/cocaine=2; cannabis=30
Drug use at 12 months	Heroin=28; crack/cocaine=2; cannabis=30
Drug use at 24 months	Heroin=5; illicit methadone=1;cannabis=30
Drug use at 36 months	Cannabis=30

Case note review 5 – ID 5, participant Stacy

File item	Response
RIOTT ID	335
Qualitative ID	5
Gender	Female
Clinic locality	Brighton
DoB	06/12/1978
Employment status	Unemployed/sickness benefit (baseline)
Parental status	1 (lives elsewhere)
Treatment allocation condition	SIM
Treatment trajectory	SIM: 24 months
Treatment discharge status	Positive: voluntary detox
Responder status (6 months)	Non-responder
Age at interview	35
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	3 months
Dose on trial entry	60mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Alcohol
Age of first use (heroin)	17
Age regular use	18
Age first injected	17
Age at first treatment episode	25
Number of previous treatment episodes	3
Number of periods of abstinence	0
Date participant entered trial	18/01/2008
Date of qualitative interview	07/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 2 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	22/07/2008
Treatment at 3 months	IM
Treatment at 6 months	IM
Dose at 6 months	100mg
Drug at 18 months	IM
Dose at 18 months	100mg
Drug at 24 months	IM
Dose at 24 months	100mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IM
Other clinical info	Drank heavily throughout the trial. Attendance an issue. Left early for an alcohol detox.
Drug use at baseline	Heroin=20; alcohol=27
Drug use at 3 months	Heroin=20; crack/cocaine=4; alcohol=30
Drug use at 6 months	Heroin=4; cannabis=2; alcohol=23
Drug use at 12 months	Heroin=15; benzodiazepines=1; cannabis=2; alcohol=21

Drug use at 24 months	Heroin=30;crack/cocaine=2; codeine=2; benzodiazepines=2; alcohol=30

Case note review 6 – ID 6, participant Serina

File item	Response
RIOTT ID	344
Qualitative ID	6
Gender	Female
Clinic locality	Brighton
DoB	02/12/1977
Employment status	Unemployed/sickness benefit
Parental status	0
Responder status (6 months)	Responder
Treatment allocation condition	SIH
Treatment trajectory	SIH: 6 months; OOM: 12 months
Treatment discharge status	Positive: voluntary move to OM
Age at interview	37
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	>6 months
Dose on trial entry	80mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Alcohol, crack/cocaine, benzodiazepines
Age of first use (heroin)	17
Age regular use	18
Age first injected	18
Age at first treatment episode	24
Number of previous treatment episodes	6
Number of periods of abstinence	1
Date participant entered trial	09/05/2008
Date of qualitative interview	03/01/2014
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 12 months	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 12 months (05/06/2009)
Dose at baseline	160mg
Additional OM at baseline	30mg
Treatment at 3 months	SIH
Dose at 6 months	240mg
Additional OM at 6 months	50mg
Dose at 12 months	120mg
Additional OM at 12 months	50mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IV
Other clinical info	Diagnosed with bipolar disorder; diagnosed with schizophrenia (last episode >3 years ago at baseline).
Drug use at baseline	Heroin=30; crack/cocaine=28; cannabis=1; alcohol=14
Drug use at 3 months	Heroin=0; crack/cocaine=2; cannabis=30
Drug use at 6 months	Heroin=2; crack/cocaine=2; benzodiazepines=30; cannabis=30; alcohol=15

Drug use at 12 months	Heroin=2; crack=yes (no. of days not recorded); alcohol=15; cannabis=30

Case note review 7 – ID 7, participant Clara

File item	Response
RIOTT ID	17
Qualitative ID	7
Gender	Female
Clinic locality	London
DoB	10/08/1969
Employment status	Unemployed/sickness benefit
Parental status	0
Accommodation status	B&B/hotel
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; OM: 12
Treatment discharge status	Negative (Other): prison
Responder status (6 months)	Unknown (DNA)
Age at interview	45
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	8 years
Dose on trial entry	50mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Yes
Age of first use (heroin)	25
Age regular use	26
Age first injected	25
Age at first treatment episode	27
Number of previous treatment episodes	5
Number of periods of abstinence	1
Date participant entered trial	18/01/2006
Date of qualitative interview	10/01/2014
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 6 months	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 6 months (09/08/2006)
Dose at baseline	120mg
Additional OM at baseline	140mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	50mg
Treatment at 4 months	SIM
Dose at 4 months	50mg
Treatment at 5 months	SIM
Dose at 5 months	100mg
Additional OM at 5 months	50mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Additional OM at 6 months	50mg
Drug at 24 months	OM
Drug at 36 months	OM
Dose at 36 months	100mg
IV or IM	Both
Other clinical info	HIV positive. Was in a residential alcohol detox during trial.

Drug use at 1 month	Heroin=21; crack/cocaine=20; cannabis=1; alcohol=8
Drug use at 2 months	Heroin=2; crack/cocaine=6; cannabis=4; alcohol=12
Drug use at 3 months	Heroin=0; crack/cocaine=4; cannabis=2; alcohol=8
Drug use at 4 months	Heroin=1; crack/cocaine=2; cannabis=20; alcohol=20
Drug use at 5 months	Heroin=1; crack/cocaine=1; cannabis=14; alcohol=30
Drug use at 6 months	Heroin=1; crack/cocaine=4; cannabis=20;alcohol=24

Case note review 8 – ID 8, Harry

File item	Response
RIOTT ID	56
Qualitative ID	8
Gender	Male
Clinic locality	London
DoB	19/03/1963
Employment status	Unemployed/sickness (baseline and at qualitative interview)
Parental status	0
Accommodation status	Hostel
Treatment allocation condition	SIM
Treatment trajectory	SIH: 30 months; SIM: 6 months
Treatment discharge status	Positive: voluntary move to OM
Responder status (6 months)	Non-responder
Age at interview	50
Ethnic origin	WB
Drug on trial entry	Buprenorphine
Treatment episode length	2 years
Dose on trial entry	8mg
How many days injected in the last month (baseline)	16
Injecting heroin	Yes
Other regular use	Alcohol and benzodiazepines
Age of first use (heroin)	20
Age regular use	20
Age first injected	21
Age at first treatment episode	26
Number of previous treatment episodes	3
Number of periods of abstinence	2 (residential rehabs)
Date participant entered trial	12/11/2007
Date of qualitative interview	20/12/2013
Current treatment status	Treatment free (abstinent)
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Last data at 31 months (05/07/2010)
Treatment at 1 month	SIM
Dose at 1 month	60mg
Additional OM at 1 month	10mg
Treatment at 2 months	SIM
Dose at 2 months	50mg
Additional OM at 2 months	40mg
Treatment at 5 months	SIM
Dose at 5 months	100mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Treatment at 9 months	SIH
Dose at 9 months	140mg (twice a day)
Additional OM at 9 months	50mg
Drug at 18 months	SIH
Dose at 18 months	1.200mg; 2. 170mg
Additional MXL at 18 months	390mg
Drug at 31 months	SIH
Dose at 31 months	170mg
Additional OM at 31 months	50mg
Illicit use through Treatment	Yes

Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Hepatitis C
Drug use at baseline	Heroin=20; alcohol=30
Drug use at 1 month	Heroin=30; crack/cocaine=4; benzodiazepines=2; alcohol=30
Drug use at 2 months	Heroin=18; crack/cocaine=5; benzodiazepines=2; alcohol=30
Drug use at 3 months	Heroin=20; crack/cocaine=4; benzodiazepines=2; alcohol=30
Drug use at 5 months	Heroin=15; crack/cocaine=8; alcohol=8
Drug use at 6 months	Heroin=20; crack/cocaine=8; alcohol=30
Drug use at 9 months	Heroin=0; crack/cocaine=4; alcohol=30
Drug use at 18 months	Alcohol=30
Drug use at 31 months	Heroin=0;crack=1; alcohol=30

Case note review 9 – ID 9, Tom

File item	Response
RIOTT ID	334
Qualitative ID	9
Gender	Male
Treatment locality	Brighton
DoB	22/10/1966
Employment status	Unemployed/sickness benefit (baseline)
Parental status	SIH
Treatment allocation condition	SIH:
Treatment trajectory	SIH: 36 months
Treatment discharge status	Positive: voluntary detox
Responder status (6 months)	Responder
Age at interview	47
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	25 years
Dose on trial entry	80mg
How many days injected in the last month (baseline)	3
Injecting heroin	Yes
Other regular use	Cannabis, benzodiazepines
Age of first use (heroin)	14
Age regular use	15
Age first injected	14
Age at first treatment episode	15
Number of previous treatment episodes	4
Number of periods of abstinence	3
Date participant entered trial	07/12/2007
Date of qualitative interview	19/12/2013
Current treatment status	Buprenorphine
Treatment preferences at baseline	1.SIM; 2. SIH; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 36 months (07/12/2010 - check)
Treatment at baseline	SIH
Treatment at 3 months	SIH
Dose at 5 months	SIH
Dose at 6 months	225mg
Dose at 12 months	220mg
Additional OM at 12 months	130mg
Dose at 18 months	220mg
Additional OM at 18 months	100mg
Dose at 24 months	220mg
Additional OM at 24 months	100mg
Drug at 36 months	SIH
Dose at 36 months	150mg
Additional OM at 36 months	40mg
IV or IM	Both
Drug use at 3 months	Heroin=0; cannabis=30; alcohol=4
Drug use at 6 months	Heroin=0; cannabis=30; alcohol=5 (2 glasses of wine per occasion)
Drug use at 12 months	Heroin=0; crack/cocaine=1; cannabis=30; alcohol=12

Drug use at 24 months	Heroin=0; Cannabis=30; alcohol=10 (0.5 pint per occasion)
Drug use at 36 months	Heroin=0; cannabis=30; alcohol=10

Case note review 10 – ID 10, participant Fay

File item	Response
RIOTT ID	324
Qualitative ID	10
Gender	Female
Clinic locality	Brighton
DoB	21/12/1970
Employment status	White Irish
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 12 months; SIM: 6 months; SIH: 18 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	43
Ethnic origin	White Irish
Drug on trial entry	OM
Treatment episode length	3 years
Dose on trial entry	70mls
How many days injected in the last month (baseline)	8
Injecting heroin	Yes
Other regular use	None
Age of first use (heroin)	13
Age regular use	17
Age first injected	14
Age at first treatment episode	20
Number of previous treatment episodes	18
Number of periods of abstinence	6
Date participant entered trial	26/11/2007
Date of qualitative interview	07/01/2013
Current treatment status	IOT (SIH)
Treatment preferences at baseline	1.SIM; 2. OOM; 3. SIH
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Still in IOT at time of interview
Treatment at 3 months	OOM
Treatment at 5 months	OOM
Treatment at 6 months	OOM
Dose at 6 months	160mg
Drug at 12 months	SIM
Dose at 12 months	100mg
Additional OM at 12 months	160mg
Drug at 18 months	SIH
Drug at 24 months	SIH
Dose at 24 months	160mg
Drug at 36 months	SIH
Dose at 36 months	140mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Missing
Drug use at baseline	Heroin=28; cannabis=15; alcohol=3

Drug use at 6 months	Heroin=7; crack/cocaine=1; cannabis=30; benzodiazepines=14
Drug use at 12 months	Heroin=0; cannabis=8
Drug use at 36 months	Heroin=0; cannabis=30

Case note review 11 – ID 11, participant Sammy

File item	**Response**
RIOTT ID	309
Qualitative ID	11
Gender	Male
Clinic locality	Brighton
DoB	20/10/1974
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	OOM: 6 months; SIM: 9 months; SIH: 3 months (then ongoing post trial)
Treatment discharge status	Long-term IOT
Responder status (6 months)	Unknown (planned absence)
Age at interview	39
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	9 months
Dose on trial entry	60ml
How many days injected in the last month (baseline)	18
Injecting heroin	Yes
Other regular use	Alcohol
Age of first use (heroin)	21
Age regular use	22
Age first injected	26
Age at first treatment episode	29
Number of previous treatment episodes	2
Number of periods of abstinence	0
Date participant entered trial	31/08/2007
Date of qualitative interview	07/10/2013
Current treatment status	Long-term IOT
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Still in IOT at time of interview
Treatment at 3 months	Missing
Treatment at 6 months	OST
Drug at 24 months	SIM
Dose at 24 months	80
Drug at 36 months	SIH
Dose at 36 months	130mg
Additional OM at 36 months	120mg
Illicit use through Treatment	No (in prison during trial)
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Went to prison during the trial (data collected from prison)
Drug use at baseline	Heroin=30; cannabis=3; benzodiazepines=2; alcohol=30
Drug use at 3 months	NB. In prison. 0 for all.
Drug use at 6 months	NB. In prison. 0 for all.

Drug use at 36 months	Heroin=0; cannabis=15; benzodiazepines=5; alcohol=30

Case note review 12 – ID 12, participant Reg

File item	Response
RIOTT ID	3
Qualitative ID	12
Gender	Male
Clinic locality	London
DoB	20/01/1956
Employment status	Baseline: Unemployed; Interview: Full-time employment
Parental status	Parent; 1 child; resides elsewhere
Treatment allocation condition	OOM
Treatment trajectory	OOM: 6 months; SIH: 30 months (and beyond the trial)
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	57
Ethnic origin	White Irish
Drug on trial entry	Oral methadone
Treatment episode length	7.5 months
Dose on trial entry	45 mls / 45 mg
How many days injected in the last month (baseline)	20
Injecting heroin	Yes
Other regular use	Cannabis and cocaine
Age of first use (heroin)	42
Age regular use	47
Age first injected	48
Age at first treatment episode	Opiates: 48 / cocaine: 40
Number of previous treatment episodes	0
Number of periods of abstinence	0
Date participant entered trial	03/10/2005
Date of qualitative interview	31/07/2013
Current treatment status	IOT: SIH 100 / MXL 600 (5 days) & MXL 800 (2 days)
Treatment preferences at baseline	1. SIH; 2. SIM; 3. OM
Treatment preferences at 3 years	1. SIH; 2. SIM; 3. OM
Date participant left IOT	Ongoing (as of qualitative interview date)
Treatment at 3 months	OM
Dose at 3 months	140mg
Treatment at 5 months	OM
Dose at 5 months	140mg
Treatment at 6 months	OM
Dose at 6 months	60mg
Drug at 12 months	SIH
Dose at 12 months	330mg
Additional OM at 12 months	50mg
Drug at 15 months	SIH
Dose at 15 months	330mg
Additional OM at 15 months	50mg
Drug at 18 months	SIH
Dose at 18 months	380mg
Additional OM at 18 months	50mg
Drug at 21 months	SIH
Dose at 21 months	380mg
Additional OM at 21 months	50mg

Drug at 24 months	SIH
Dose at 24 months	380mg
Additional OM at 24 months	50mg
Drug at 30 months	SIH
Dose at 30 months	410mg
Additional OM at 30 months	50mg
Drug at 33 months	SIH
Dose at 33 months	430mg
Drug at 36 months	SIH
Dose at 36 months	380mg x 5 days per week; 230mg x1 day; OM 155mg x 1 day per week.
Drug at 42 months	SIH
Dose at 42 months	380mg
Additional MXL at 42 months	240mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	OM for first year, then IV SIH, then moved to IM with encouragement for this from staff.
Other clinical info	Alcoholic for 30 years - stopped drinking 10 years ago (medical notes did indicate incidences of drinking over the course of RIOTT).
Drug use at 1 month	Heroin=28; crack/cocaine=30; alcohol=0; benzodiazepines=2/30
Drug use at 2 months	Heroin=30; crack/cocaine=10; alcohol=2
Drug use at 3 months	Heroin=29; benzodiazepines=3; crack/cocaine=10; cannabis 12; alcohol=2
Drug use at 4 months	Heroin=30; crack/cocaine=10; alcohol=30; benzodiazepines=4
Drug use at 5 months	Heroin=30; crack/cocaine=8; alcohol and benzodiazepines=0
Drug use at 6 months	Heroin=30; crack/cocaine=10; cannabis=4
Drug use at 12 months	Heroin=15; crack/cocaine=20
Drug use at 15 months	Heroin=14; crack/cocaine=14; alcohol=3
Drug use at 18 months	Heroin=8; crack/cocaine=8
Drug use at 21 months	Heroin=8; crack/cocaine=8; alcohol=1
Drug use at 24 months	Heroin=8; crack/cocaine=8
Drug use at 30 months	Heroin=8; crack/cocaine=8; alcohol=2
Drug use at 33 months	Heroin=4; crack/cocaine=8; alcohol=0
Drug use at 36 months	Heroin=8; crack/cocaine=8; alcohol=0.
Drug use at 42 months	Drugs=0; alcohol=1

Case note review 13 – ID 13, participant Fran

File item	Response
RIOTT ID	9
Qualitative ID	13
Gender	Female
Clinic locality	London
DoB	25/05/1968
Employment status	Unemployed
Parental status	2 adult children; reside elsewhere
Treatment allocation condition	SIM
Current treatment status (time of interview)	IOT
Treatment trajectory	SIM: 6 months; SIH: 30 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	46
Ethnic origin	WB
Drug on trial entry	Oral methadone
Treatment episode length	6 months
Dose on trial entry	90 mls
How many days injected in the last month (baseline)	16
Injecting heroin (baseline)	Y
Other regular use (baseline)	Cannabis, benzodiazepines, crack
Age of first use (heroin)	14 years old
Age regular use	14
Age first injected	16
Age at first treatment episode	16
Number of previous treatment episodes	9 (5 detox; 3 rehab; 1 stabilised)
Number of periods of abstinence	1
Date participant entered trial	14/11/2005
Date of qualitative interview	22/08/2014
Current treatment status	IOT: SIH
Treatment preferences at baseline	1. SIH and SIM; 2. OM
Treatment preferences at 3 years	1. SIH; 2. SIM; 3. OM
Date participant left IOT	Ongoing (as of qualitative interview date)
Treatment at 3 months	IM
Dose at 3 months	160mg
Treatment at 6 months	IM
Dose at 6 months	150mg
Treatment at 12 months	IH
Dose at 12 months	460mg
Additional OM at 12 months	80mg
Treatment at 18 months	IH
Dose at 18 months	460mg
Additional OM at 18 months	100mg
Treatment at 24 months	IH
Dose at 24 months	460mg
Additional OM at 24 months	100mg
Treatment at 33 months	IH
Dose at 33 months	480mg
Treatment at 36 months	IH
Dose at 36 months	500mg
Treatment at 60 months	IH
Dose at 60 months	300mg

Additional OM at 42 months	50mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at 1 month	Heroin=2; alcohol=6; crack/cocaine=10; cannabis=2
Drug use at 2 months	Heron=0; alcohol=12; benzodiazepines=2; crack/cocaine=14; cannabis=3
Drug use at 3 months	Heroin=0; alcohol=30; crack/cocaine=25; cannabis=12
Drug use at 4 months	Heroin=0; alcohol=6; benzodiazepines=2; crack/cocaine=10; cannabis=2
Drug use at 5 months	Heroin=2; alcohol=6; crack/cocaine=10; cannabis=8
Drug use at 6 months	Heroin=1 (smoked); crack/cocaine =12; alcohol=6; benzodiazepines=1
Drug use at 15 months	Alcohol=3; crack/cocaine=1; cannabis=1
Drug use at 18 months	Cannabis=2
Drug use at 21 months	Alcohol=1; cannabis=1
Drug use at 24 months	Crack=2; cannabis=2
Drug use at 30 months	Alcohol=3; crack/cocaine=1; cannabis=30/30
Drug use at 33 months	Alcohol=7; cannabis=10
Drug use at 44 months	Alcohol=1; cannabis=30
6 years	Crack use
7 years	Heroin, crack and alcohol use
8 years	Heroin and crack use

Case note review 14 – ID 14, participant Nicholas

File item	Response
RIOTT ID	41
Qualitative ID	14
Gender	Male
Clinic locality	London
DoB	09/12/1966
Employment status	Unemployed
Parental status	5 children (live elsewhere)
Treatment allocation condition	SIH
Treatment trajectory	SIH: 24 months; SIM: 12 months
Treatment discharge status	Positive: voluntary move to OM
Responder status (6 months)	Responder
Age at interview	48 years old
Ethnic origin	WB
Drug on trial entry	Oral methadone
Treatment episode length (baseline)	Missing data
Dose on trial entry	50 mg / mls
How many days injected in the last month (baseline)	30
Injecting heroin (baseline)	Yes
Other regular use (baseline)	Crack/cocaine
Age of first use (heroin)	19
Age regular use	19
Age first injected	19
Age at first treatment episode	26
Number of previous treatment episodes	5
Number of periods of abstinence	0
Date participant entered trial	27/11/2006
Date of qualitative interview	10/10/2013
Current treatment status	OM
Treatment preferences at baseline	1. SIH; 2. SIM; 3. OM
Treatment preferences at 3 years	1. SIH or SIM; 2. OM
Date participant left IOT	2009
Reason for discharge	Voluntary move to OM
Treatment at 3 months	SIH
Dose at 3 months	840mg
Treatment at 6 months	SIH
Dose at 6 months	560mg
Treatment at 12 months	SIH
Dose at 12 months	560mg
Additional OM at 12 months	60mg
Treatment at 18 months	SIH
Dose at 18 months	600mg
Additional OM at 18 months	60mg
Treatment at 24 months	SIH
Dose at 24 months	400mg
Additional MXL at 24 months	450mg
Treatment at 36 months	OM
Dose at 36 months	150mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IV
Drug use at baseline	Heroin=30; crack=10; cannabis=1
Drug use at 3 months	Heroin=0; crack=5; cannabis=20
Drug use at 6 months	Heroin=1; crack=4; cannabis=15

Drug use at 9 months	Heroin=2; crack=10; benzodiazepines=4; cannabis=1
Drug use at 15 months	Heroin=0; crack=1; cannabis=10
Drug use at 21 months	Crack=8; cannabis=8
Drug use at 30 months	Crack=1; cannabis=24

Case note review 15 – ID 15, participant Ben

File item	Response
RIOTT ID	350
Qualitative ID	15
Gender	Male
Clinic locality	Brighton
DoB	30/04/1966
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	OOM: 12 months; SIH: 15 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Unknown (planned absence: prison)
Age at interview	47
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	Notes illegible
Dose on trial entry	100mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Crack/cocaine
Age of first use (heroin)	18
Age first regular use	18
Age first injected	17 (speed)
Age first treatment episode	26
Number of treatment episodes	6
Number of periods of abstinence	0
Date participant entered trial	08/08/2008
Date of qualitative interview	26/09/2013
Current treatment status	Long-term IOT (SIH)
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. OOM; 3. SIM
Date participant left IOT	Still in IOT at time of interview
Treatment at baseline	SIH
Dose at baseline	140mg
Additional OM at baseline	50mg
Treatment at 3 months	SIH
Dose at 3 months	770mg
Additional OM at 3 months	470mg
Treatment at 6 months	OST
Drug at 12 months	OM
Dose at 12 months	180
Drug at 24 months	SIH
Dose at 24 months	260
Additional OM at 24 months	130
Drug at 36 months	SIH
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Went to prison during trial
Drug use at baseline	Heroin=30; illicit methadone=2; crack/cocaine=30; benzodiazepines=2
Drug use at 3 months	NB. In prison at this time point. Benzodiazepines=18; everything else=0

Drug use at 6 months	Heroin=27; crack/cocaine=30; benzodiazepines=25; alcohol=5
Drug use at 24 months	Heroin=0; illicit methadone=1; crack/cocaine=1; cannabis=1; alcohol=6
Drug use at 36 months	Heroin=0; crack/cocaine=4; alcohol=6

Case note review 16 – ID 16, participant Oliver

File item	Response
RIOTT ID	341
Qualitative ID	16
Gender	Male
Clinic locality	Brighton
DoB	25/12/1954
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months (and beyond trial)
Treatment discharge status	Long-term IOT
Responder status (6 months)	Responder
Age at interview	59
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	3 months
Dose on trial entry	50ml
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Yes
Age of first use (heroin)	16
Age first regular use	31
Age first injected	16
Age first treatment episode	31
Number of treatment episodes	5
Number of periods of abstinence	0
Date participant entered trial	02/05/2008
Date of qualitative interview	28/09/2013
Current treatment status	IOT (SIH)
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Still in IOT at time of interview
Treatment at baseline	SIH
Treatment at 3 months	SIH
Treatment at 6 months	SIH
Dose at 6 months	150mg
Additional OM at 6 months	70mg
Drug at 12 months	SIH
Dose at 12 months	70mg
Additional OM at 12 months	80mg
Dose at 18 months	100mg
Additional OM at 18 months	80mg
Dose at 24 months	195mg
Additional OM at 24 months	60mg
Dose at 36 months	100mg
Additional OM at 36 months	60mg
Illicit use through treatment	No
Use of other drugs through treatment	Yes (minimal)
IV or IM	Both
Drug use at baseline	Heroin=30; cannabis=2
Drug use at 3 months	Cannabis=15
Drug use at 6 months	All=0
Drug use at 12 months	All=0; alcohol=13
Drug use at 24 months	All=0; cannabis=1

Drug use at 36 months	All=0

Case note review 17 – ID 17, participant Matthew

File item	**Response**
RIOTT ID	4
Qualitative ID	17
Gender	Male
Clinic locality	London
DoB	14/05/1961
Employment status	Unemployed/sickness benefit
Treatment allocation condition	SIM
Treatment trajectory	SIM: 24
Treatment discharge status	Negative (compulsory discharge; behaviour)
Parental status	0
Responder status (6 months)	Responder
Age at interview	52
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	Missing data
Dose on trial entry	75ml
How many days injected in the last month (baseline)	25
Injecting heroin	Yes
Other regular use	No
Age of first use (heroin)	24
Age first regular use	24
Age first injected	24
Age first treatment episode	27
Number of previous treatment episodes	4
Number of periods of abstinence	0
Date participant entered trial	28/09/2005
Date of qualitative interview	28/08/2013
Current treatment status	Treatment drug free (abstinent)
Treatment preferences at baseline	1.SIM; 2. SIH; 3. OOM
Treatment preferences at 3 years	1.SIM;
Date participant left IOT	Last data collected at 36 months (17/12/2008)
Treatment at baseline	SIM
Dose at baseline	100mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	20mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Drug at 12 months	SIH
Dose at 12 months	100mg
Additional OM at 12 months	20mg
Drug at 15 months	SIM
Dose at 15 months	100mg
Additional OM at 15 months	20mg
Drug at 18 months	SIM
Dose at 18 months	135mg
Additional OM at 18 months	20mg
Drug at 21 months	SIM
Dose at 21 months	100mg
Additional OM at 21 months	20mg

Drug at 24 months	SIM
Dose at 24 months	100mg
Additional OM at 24 months	20mg
Drug at 36 months	SIM
Dose at 36 months	50mg
Additional OM at 36 months	20mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Participant had an allergic reaction to the diamorphine treatment (suffered anaphylactic shock). Participant was on an ATR (Alcohol Treatment Requirement) at time of interview. Diagnosed with hepatitis C.
Drug use at 1 month	Heroin=9; crack/cocaine=9
Drug use at 2 months	Heroin=8; crack/cocaine=4
Drug use at 3 months	Heroin=0; crack/cocaine=1; alcohol=data illegible
Drug use at 4 months	Heroin=7; crack/cocaine=6
Drug use at 5 months	Heroin=0; crack/cocaine=2; alcohol=1
Drug use at 6 months	Heroin=0; crack/cocaine=4; alcohol=24
Drug use at 15 months	Heroin=0; crack/cocaine=1; alcohol=30
Drug use at 18 months	Heroin=0; illicit methadone=1; alcohol=14
Drug use at 21 months	Missing
Drug use at 24 months	All=0; alcohol=30
Drug use at 36 months	All=0; alcohol=30

Case note review 18 – ID 18, participant Luke

File item	Response
RIOTT ID	22
Qualitative ID	18
Gender	Male
Treatment locality	London
DoB	14/08/1965
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 12 months; SIH: SIH
Treatment discharge status	Negative: compulsory discharge (sedation; benzodiazepine use)
Responder status (6 months)	Non-responder
Age at interview	48
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	6 months
Dose on trial entry	90mg
How many days injected in the last month (baseline)	13
Injecting heroin	Yes
Other regular use	Cannabis, crack/cocaine and benzodiazepines
Age of first use (heroin)	19
Age first regular use	22
Age first injected	25
Age first treatment	22
Number of previous treatment episodes	7
Number of periods of abstinence	0
Date participant entered trial	16/07/2008
Date of qualitative interview	28/08/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Last data collected at 28 months (02/07/2008)
Treatment at 2 months	OOM
Dose at 2 months	100mg (once per day)
Additional diazepam at 2 months	40mg (twice per day)
Treatment at 3 months	OOM
Dose at 3 months	120mg
Treatment at 4 months	OOM
Dose at 4 months	120mg (once a day)
Treatment at 5 months	OOM
Dose at 5 months	120mg (once a day)
Treatment at 6 months	OOM
Dose at 6 months	120mg
Treatment at 7 months	OOM
Dose at 7 months	120mg
Treatment at 8 months	OOM
Dose at 8 months	120mg
Treatment at 9 months	OOM
Dose at 9 months	120mg
Drug at 12 months	SIH
Dose at 12 months	430mg

Additional OM at 12 months	30mg
Drug at 15 months	SIH
Dose at 15 months	460mg
Additional OM at 15 months	30mg
Drug at 18 months	SIH
Dose at 18 months	200mg
Additional OM at 18 months	30mg
Drug at 21 months	SIH
Dose at 21 months	230mg
Additional OM at 21 months	30mg
Drug at 24 months	SIH
Dose at 24 months	460mg
Additional OM at 24 months	40mg
Drug at 27 months	OM
Dose at 27 months	150mg
Drug at 30 months	OM
Dose at 30 months	150mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Participant cited a sarcastic comment to staff at reason why he was ejected from IOT, notes state over-sedation. Diagnosed with Autistic Spectrum Condition (ASC) during the trial.
Drug use at 1 month	Heroin=16; illicit methadone=4; benzodiazepines=1; crack/cocaine=30; cannabis=30; alcohol=1
Drug use at 2 months	Heroin=9; illicit methadone=3; benzodiazepines=1; crack/cocaine=20; cannabis=4; alcohol=1
Drug use at 3 months	Heroin=8; illicit methadone=8; benzodiazepines=4; crack/cocaine=8; cannabis=15; alcohol=2
Drug use at 4 months	Heroin=12; illicit methadone=7; benzodiazepines=2; crack/cocaine=14; cannabis=8; alcohol=12
Drug use at 5 months	Heroin=9; illicit methadone=5; benzodiazepines=4; crack/cocaine=12; cannabis=30; alcohol=12
Drug use at 6 months	Heroin=8; illicit methadone=6; benzodiazepines=2; crack/cocaine=12; cannabis=30; alcohol=12
Drug use at 7 months	Heroin=30; illicit methadone=12; benzodiazepines=4; crack/cocaine=16; cannabis=16; alcohol=18
Drug use at 8 months	Heroin=28; illicit methadone=8; benzodiazepines=1; crack/cocaine=21 or 27 (difficult to tell which; handwriting); cannabis=8; alcohol=7
Drug use at 9 months	Heroin=20; crack/cocaine=16; illicit methadone=8; benzodiazepines=4; cannabis=16; alcohol=3
Drug use at 12 months	Heroin=0; crack/cocaine=12; cannabis=12
Drug use at 15 months	Missing
Drug use at 18 months	Heroin=0; benzodiazepines=10; crack/cocaine=12; cannabis=14

Drug use at 21 months	Heroin=0; benzodiazepines=1; cannabis=1; crack/cocaine=1
Drug use at 24 months	Heroin=0; benzodiazepines=20; crack/cocaine=20; cannabis=8; alcohol=20
Drug use at 27 months	Heroin=30; crack/cocaine=30; benzodiazepines=1; cannabis=8; alcohol=3
Drug use at 28 months	Heroin=22; crack/cocaine=18; cannabis=8; benzodiazepines=4
Drug use at 30 months	Heroin=8; crack/cocaine=20; benzodiazepines=5; cannabis=8

Case note review 19 – ID 19, participant Pam

File item	Response
RIOTT ID	55
Qualitative ID	19
Gender	Female
Clinic locality	London
DoB	19/08/1965
Employment status	Sickness benefit
Parental status	Baseline data stated 0 – qualitative interview revealed participant had 3 children (living elsewhere)
Treatment allocation condition	SIH
Treatment trajectory	SIH: 24 months; MXL: 12 months
Treatment discharge status	Positive: voluntary move to MXL
Responder status (6 months)	Responder
Age at interview	48
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	3 years +
Dose on trial entry	50mg
How many days injected in the last month (baseline)	16
Injecting heroin	Yes
Other regular use	Benzodiazepines
Age of first use (heroin)	20
Age first regular use	21
Age first injected	21
Age first treatment episode	33
Number of previous treatment episodes	1
Number of periods of abstinence	0
Date participant entered trial	03/09/2007
Date of qualitative interview	29/08/2013
Current treatment status	MXL (fortnightly prescription)
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH (MXL as number 1); 2. OOM; 3. SIM
Date participant left IOT	Moved to MXL at 24 months
Treatment at 1 month	310mg
Treatment at 1 month	100mg
Additional OM at baseline	20mg
Additional OM at 1 month	40mg
Treatment at 3 months	SIH
Dose at 3 months	460mg
Additional OM at 3 months	55mg
Treatment at 4 months	SIH
Dose at 4 months	590mg
Additional OM at 4 months	55mg
Treatment at 5 months	SIH
Dose at 5 months	520mg
Additional OM at 5 months	55mg
Treatment at 6 months	SIH
Dose at 6 months	550mg
Additional OM at 6 months	55ml
Drug at 12 months	SIH
Dose at 12 months	580mg
Additional OM at 12 months	55mg

Drug at 18 months	SIH
Dose at 18 months	560mg
Additional OM at 18 months	40mg
Drug at 21 months	SIH
Dose at 21 months	580mg
Drug at 36 months	MXL
Dose at 36 months	1000mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Hepatitis C. Service user representative
Drug use at baseline	Heroin=20; crack/cocaine=20 (smoked)
Drug use at 1 month	Heroin=4; crack/cocaine=12; illicit methadone=1;
Drug use at 2 months	Heroin=4; crack/cocaine (smoked)=12 illicit methadone=1
Drug use at 3 months	Heroin=2; crack/cocaine-10
Drug use at 4 months	Heroin=1; crack/cocaine=7
Drug use at 5 months	Heroin=2; benzodiazepines=2; crack/cocaine=9;
Drug use at 6 months	Heroin=1; benzodiazepines=2; crack/cocaine=6
Drug use at 12 months	Crack/cocaine=3
Drug use at 21 months	All=0
Drug use at 24 months	All=0
Drug use at 36 months	All=0

Case note review 20 – ID 20 – participant Gerry

File item	Response
RIOTT ID	314
Qualitative ID	20
Gender	Male
Clinic locality	Brighton
DoB	07/07/1961
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Responder
Age at interview	52
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	30 months
Dose on trial entry	90ml
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Benzodiazepines (alcohol and crack/cocaine – sporadic use)
Age first use (heroin)	18
Age first regular use	21
Age first injected	18
Age first treatment episode	20
Number of previous treatment episodes	10
Number of periods of abstinence	2 (methadone)
Date participant entered trial	15/10/2007
Date of qualitative interview	23/09/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Retained in long-term IOT (in SIH at interview)
Treatment at 3 months	SIH
Dose at 3 months	Missing
Treatment at 5 months	SIH
Treatment at 6 months	SIH
Dose at 6 months	175mg
Additional OM at 6 months	50mg
Drug at 12 months	SIH
Dose at 12 months	175mg
Additional OM at 12 months	60mg
Drug at 18 months	SIH
Dose at 18 months	130mg
Additional OM at 18 months	70mg
Dose at 24 months	80mg
Additional OM at 24 months	80mg
Drug at 36 months	SIH
Dose at 36 months	200mg
Additional OM at 36 months	140mg
Illicit use through Treatment	Yes (first few months)
Use of other drugs through Treatment	Yes
IV or IM	IV

Drug use at baseline	Heroin=30; crack/cocaine=10; alcohol=12
Drug use at 3 months	Heroin=15; crack/cocaine=12; cannabis=1; alcohol=12
Drug use at 6 months	Cannabis=30; alcohol=10
Drug use at 12 months	Crack/cocaine=7; alcohol=15
Drug use at 24 months	Cannabis=20; alcohol=5
Drug use at 36 months	Crack/cocaine=2; Cannabis=20; alcohol=12

Case note review 21 – ID 21, participant Shane

File item	Response
RIOTT ID	25
Qualitative ID	21
Gender	Male
Clinic locality	London
DoB	09/11/1962
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; SIH: 30 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	51
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	16 years
Dose on trial entry	70ml
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Yes
Age of first use (heroin)	18
Age first regular use	19
Age first injected	20
Age first treatment episode	23
Number of previous treatment episodes	1
Number of periods of abstinence	0 (“rehab.”)
Date participant entered trial	10/05/2006
Date of qualitative interview	05/08/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Still in IOT at time of interview
Treatment at baseline	SIM
Dose at baseline	90mg
Additional OM at baseline	80mg
Treatment at 2 months	SIM
Dose at 2 months	30mg
Additional OM at 2 months	30mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	30mg
Treatment at 6 months	SIM
Dose at 6 months	120mg
Additional OM at 6 months	20mg
Treatment at 10 months	SIH
Dose at 10 months	470mg
Additional OM at 10 months	50mg
Drug at 12 months	SIH
Dose at 12 months	520mg
Additional OM at 12 months	50mg
Drug at 15 months	SIH
Dose at 15 months	540mg
Additional OM at 15 months	50mg
Drug at 18 months	SIH

Dose at 18 months	540mg
Additional OM at 18 months	50mg
Drug at 21 months	SIH
Dose at 21 months	540mg
Additional OM at 21 months	50mg
Drug at 26 months	SIH
Drug at 27 months	SIH
Dose at 27 months	540mg
Additional OM at 27 months	50mg
Drug at 36 months	SIH
Dose at 36 months	270mg
Additional MXL at 36 months	390mg
Drug at 38 months	SIH
Dose at 38 months	540mg
Additional MXL at 38 months	390mg
Illicit use through treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at baseline	Heroin=29; crack/cocaine=29; benzodiazepines=12
Drug use at 2 months	Heroin=10; crack/cocaine=30; benzodiazepines=15; cannabis=4
Drug use at 3 months	Heroin=20; crack/cocaine-20; cannabis=2
Drug use at 4 months	Heroin=15; crack/cocaine=20
Drug use at 5 months	Heroin=10; crack/cocaine=22; benzodiazepines=1
Drug use at 6 months	Heroin=5; crack/cocaine=20
Drug use at 15 months	Crack/cocaine=20
Drug use at 18 months	Crack/cocaine=20 (smoked)
Drug use at 21 months	Heroin=1; crack/cocaine=25; cannabis=2; benzodiazepines=2
Drug use at 24 months	Heroin=1; crack/cocaine=20
Drug use at 27 months	Crack/cocaine=12; cannabis=1
Drug use at 28 months	Heroin=2; crack/cocaine=20
Drug use at 40 months	All=0

Case note review 22 – ID 22, participant Ellie

File item	Response
RIOTT ID	65
Qualitative ID	22
Gender	Female
Clinic locality	20/06/1972
DoB	Unemployed/sickness benefit (baseline) / University course (at time of interview)
Employment status	0
Parental status	SIH
Treatment allocation condition	SIH: 36 months (and post-trial)
Treatment trajectory	Positive: voluntary move to MXL
Treatment discharge status	Responder
Responder status (6 months)	41
Age at interview	WB
Ethnic origin	OM
Drug on trial entry	12 months
Treatment episode length	60ml
Dose on trial entry	16
How many days injected in the last month (baseline)	Yes
Injecting heroin	Alcohol and crack/cocaine
Other regular use	17
Age of first use (heroin)	27
Date participant entered trial	30
Date of qualitative interview	32
Current treatment status	8
Treatment preferences at baseline	3
Treatment preferences at 3 years	04/06/2008
Date participant left IOT	03/10/2013
Treatment at 3 months	MXL (fortnightly subscription)
Dose at 3 months	1.SIH; 2/3: SIM and OM (can't choose)
Treatment at 5 months	1.SIH; 2. SIM; 3. OOM
Dose at 5 months	Post-RIOTT
Treatment at 6 months	SIH
Dose at 6 months	420mg
Additional OM at 6 months	60mg
Drug at 12 months	SIH
Dose at 12 months	400mg
Additional OM at 12 months	450mg
Drug at 15 months	SIH
Dose at 15 months	400mg
Additional MXL at 15 months	450mg
Drug at 18 months	SIH
Dose at 18 months	220mg
Additional MXL at 18 months	700mg
Drug at 24 months	SIH
Dose at 24 months	200mg
Additional MXL at 24 months	600mg
Drug at 36 months	SIH
Dose at 36 months	160
Additional MXL at 36 months	700
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both

Other clinical info	Partner also on the trial, and interviewed
Drug use at baseline	Heroin=26; crack/cocaine=26; cannabis=1; alcohol=30
Drug use at 3 months	Heroin=2; codeine=3; alcohol=12
Drug use at 6 months	Heroin=1; crack/cocaine=1; alcohol=7
Drug use at 12 months	Alcohol=6
Drug use at 15 months	All=0
Drug use at 24 months	Alcohol=19
Drug use at 36 months	Alcohol=30

Case note review 23 – ID 23, participant Andy

File item	Response
RIOTT ID	49
Qualitative ID	23
Gender	Male
Clinic locality	London
DoB	09/02/1975
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 6 months; SIH: 6 months; MXL: 12 months (and post-RIOTT – time of interviewing)
Treatment discharge status	Positive: voluntary move to MXL
Responder status (6 months)	Non-responder
Age at interview	38
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	8 months (this episode)
Dose on trial entry	40ml
How many days injected in the last month (baseline)	22
Injecting heroin	Yes
Other regular use	Crack/cocaine; alcohol and cannabis
Age of first use (heroin)	15
Age first regular	23
Age first injected	25
Age first treatment episode	27
Number of previous treatment episodes	6
Number of periods of abstinence	0
Date participant entered trial	24/04/2007
Date of qualitative interview	03/10/2013
Current treatment status	MXL
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Transferred to MXL at 2 years (data collection date:
Treatment at 1 month	OM
	90mg
Treatment at 2 months	OM
Dose at 2 months	90mg
Treatment at 3 months	OOM
Dose at 3 months	100mg
Treatment at 4 months	OOM
Dose at 4 months	50mg
Treatment at 5 months	OOM
Dose at 5 months	50ml
Treatment at 6 months	OOM
Dose at 6 months	60mg
Treatment at 9 months	400mg
Additional OM at 9 months	55mg
Drug at 12 months	SIH
Dose at 12 months	300mg
Additional OM at 12 months	50ml
Drug at 15 months	SIH
Dose at 15 months	270

Additional OM at 15 months	50ml
Drug at 24 months	MXL
Dose at 24 months	780mg
Drug at 36 months	MXL
Dose at 36 months	650mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
Other clinical info	Partner also in RIOTT trial, and was interviewed
Drug use at baseline	Heroin=20; crack/cocaine=10; cannabis=4; alcohol=30
Drug use at 1 month	Heroin=25; crack/cocaine=6; cannabis=3; alcohol=30
Drug use at 2 months	Heroin=20; crack/cocaine=4; cannabis=2; alcohol=30
Drug use at 3 months	Heroin=16; crack/cocaine=5; cannabis=2; alcohol=30
Drug use at 4 months	Heroin=12; crack/cocaine=5; cannabis=2; alcohol=30
Drug use at 5 months	Heroin=20; crack/cocaine=8; cannabis=2
Drug use at 6 months	Heroin=16; crack/cocaine=4; cannabis=8; alcohol=2
Drug use at 9 months	Heroin=5; crack/cocaine=2; cannabis=3
Drug use at 12 months	All=0
Drug use at 15 months	All=0
Drug use at 24 months	Cannabis=7
Drug use at 36 months	Alcohol=4

Case note review 24 – ID 24, participant Trevor

File item	Response
RIOTT ID	33
Qualitative ID	24
Gender	Male
Clinic locality	London
DoB	07/08/1968
Employment status	Unemployed/sickness benefit
Parental status	2 (live elsewhere)
Treatment allocation condition	OOM
Treatment trajectory	OOM: 6 months; SIH: 24 months
Treatment discharge status	Negative (compulsory discharge; benzodiazepine use)
Responder status (6 months)	Non-responder
Age at interview	45
Ethnic origin	WI
Drug on trial entry	OM
Treatment episode length	24 months
Dose on trial entry	125ml
How many days injected in the last month (baseline)	21
Injecting heroin	Yes
Other regular use	Crack/cocaine, benzodiazepines and alcohol
Age of first use (heroin)	14
Age first regular use	15
Age first injected	14
Age first treatment	17
Number of previous treatment episodes	5
Number of periods of abstinence	0
Date participant entered trial	04/07/2006
Date of qualitative interview	08/10/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. OOM; 3. SIM
Treatment preferences at 5 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 21 months (08/05/2008)
Treatment at 1 month	OOM
Dose at 1 month	150mg
Treatment use at 2 months	OOM
Dose at 2 months	150mg
Treatment at 3 months	OOM
Dose at 3 months	150mg (once a day)
Treatment at 4 months	OOM
Dose at 4 months	150mg
Additional OM at 4 months	160mg
Treatment at 5 months	OM
Dose at 5 months	170mg (once a day)
Treatment at 6 months	OOM
Dose at 6 months	130mg
Additional OM at 6 months	40mg
Drug at 9 months	SIH
Dose at 9 months	150mg
Additional OM at 9 months	50mg
Drug at 10 months	SIH
Dose at 10 months	560mg

Additional OM at 10 months	50mg
Drug at 12 months	SIH
Dose at 12 months	500mg
Drug at 15 months	SIH
Dose at 15 months	560mg
Additional OM at 15 months	50mg
Drug at 18 months	SIH
Dose at 18 months	560mg
Additional OM at 18 months	50mg
Drug at 21 months	SIH
Dose at 21 months	580mg
Additional OM at 21 months	50mg
Drug at 5 years	OM
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Hep C and DVT. Groin injecting during IOT.
Drug use at baseline	Heroin=28; illicit methadone=4; crack/cocaine=5; benzodiazepines=2; alcohol=15
Drug use at 1 month	Heroin=30; crack/cocaine=15; benzodiazepines=2; alcohol=20
Drug use at 2 months	Heroin=30; illicit methadone=5; tramadol=2; crack/cocaine=20; benzodiazepines=2; alcohol=12
Drug use at 3 months	Heroin=28; crack/cocaine=16; benzodiazepines=2; alcohol=20
Drug use at 4 months	Heroin=30; crack/cocaine=15; benzodiazepines=3; alcohol=yes (number of days unclear/amounts listed)
Drug use at 5 months	Heroin=26; illicit methadone= 2; crack/cocaine=18; benzodiazepines=2; alcohol=20
Drug use at 6 months	Heroin=25; crack/cocaine=20; alcohol=30
Drug use at 9 months	Heroin=3; crack/cocaine=3; benzodiazepines=3; alcohol=16
Drug use at 10 months	Heroin=3; crack/cocaine=3; benzodiazepines=2; alcohol=30
Drug use at 15 months	Crack/cocaine=4
Drug use at 18 months	Heroin=1; crack/cocaine=1; benzodiazepines=2; alcohol=30
Drug use at 21 months	Crack/cocaine=4; alcohol=30
Drug use at 35 months	Alcohol=30
Drug use at 5 years	Benzodiazepines=2; alcohol=26

Case note review 25 – ID 25, participant Iain

File item	Response
RIOTT ID	32
Qualitative ID	25
Gender	Male
Clinic locality	London
DoB	05/07/1964
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; OM: 12 months
Treatment discharge status	Positive: voluntary move to OM (declined SIH)
Responder status (6 months)	Non-responder
Age at interview	49
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	24 months
Dose on trial entry	60ml
How many days injected in the last month (baseline)	25
Injecting heroin	Yes
Other regular use	Crack/cocaine
Age of first use (heroin)	16
Age first regular use	16
Age first injected	16
Age first treatment episode	18
Number of previous treatment episodes	5
Number of periods of abstinence	1 (detox)
Date participant entered trial	02/06/2006
Date of qualitative interview	10/03/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. OOM; 3. SIM
Treatment preferences at 6 months	1.OOM (“doesn’t want any injectables”)
Date participant left IOT	20/12/2006 (transferred to OOM)
Treatment at baseline	SIM
Dose at baseline	80mg
Additional OM at baseline	120mg
Treatment at 1 month	100mg
Additional OM at 1 month	10mg
Treatment at 2 months	SIM
Dose at 2 months	100mg
Additional OM at 2 months	40mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	30mg
Treatment at 4 months	SIM
Additional OM at 4 months	30mg
Treatment at 5 months	SIM
Dose at 5 months	100mg
Additional OM at 5 months	30mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Additional OM at 6 months	30mg
Drug at 24 months	OM
Dose at 24 months	115mg

Drug at 36 months	OM
Dose at 36 months	115mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at 1 month	Heroin=20; crack/cocaine=20; cannabis=4; alcohol=15
Drug use at 2 months	Heroin=20; crack/cocaine=20; cannabis=2; alcohol=20
Drug use at 3 months	Heroin=10; crack/cocaine=10; cannabis=3; alcohol=25
Drug use at 4 months	Heroin=4; dihydrocodeine tablets=7; crack/cocaine=25; alcohol=30
Drug use at 5 months	Heroin=2; crack/cocaine=25; cannabis=1; alcohol=30
Drug use at 6 months	Heroin=3; crack/cocaine=20; cannabis=3; alcohol=30
Drug use at 36 months	Heroin=25; alcohol=30

Case note review 26 – ID 26, participant Jason

File item	Response
RIOTT ID	61
Qualitative ID	26
Gender	Male
Clinic locality	London
DoB	02/05/1970
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 18 months; SIH: 18 months
Treatment discharge status	Negative: compulsory; ongoing crack use
Responder status (6 months)	Responder
Age at interview	43
Ethnic origin	Black British, Caribbean
Drug on trial entry	OM
Treatment episode length	11 months
Dose on trial entry	35mg
How many days injected in the last month (baseline)	Missing
Injecting heroin	Yes
Other regular use	Crack/cocaine; alcohol; benzodiazepines (prescribed)
Age of first use (heroin)	21
Age first regular use	27
Age first injected	27
Age first treatment episode	28
Number of previous treatment episodes	18
Number of periods of abstinence	0
Date participant entered trial	27/02/2008
Date of qualitative interview	17/10/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Last data collected at 2 years (07/03/2010)
Treatment at baseline	OOM
Dose at baseline	115mg
Treatment at 2 months	OOM
Dose at 2 months	85mg
Treatment at 3 months	OOM
Dose at 3 months	85mg
Treatment at 6 months	OOM
Dose at 6 months	100
Drug at 12 months	SIH
Dose at 12 months	300mg
Additional MXL at 12 months	300mg
Drug at 18 months	SIH
Dose at 18 months	100mg
Drug at 24 months	SIH
Dose at 24 months	240mg
Drug at 36 months	OM
Dose at 36 months	85mg
Illicit use through treatment	Yes
Use of other drugs through treatment	Yes

Other clinical info	Hospitalised during trial.
Drug use at baseline	Heroin=30; illicit methadone=2; crack/cocaine=30; benzodiazepines=1; cannabis=2; alcohol=2
Drug use at 1 month	Heroin=12; crack/cocaine=15; benzodiazepines=30; MDMA=1
Drug use at 2 months	Missing data - hospitalised
Drug use at 3 months	Heroin=25; codeine=3; crack/cocaine=30; benzodiazepines=1; alcohol=9
Drug use at 6 months	Heroin=3; illicit methadone=2; crack/cocaine=1; alcohol=3
Drug use at 12 months	Crack/cocaine=20; cannabis=2; alcohol=8
Drug use at 24 months	Heroin=0; cannabis=17; alcohol=10
Drug use at 36 months	Missing data (no longer in RIOTT)

Case note review 27 – ID 27, participant Ron

File item	Response
RIOTT ID	21
Qualitative ID	27
Gender	Male
Clinic locality	London
DoB	30/12/1964
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; SIH: 36 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	49
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	9 months
Dose on trial entry	35ml
How many days injected in the last month (baseline)	15
Injecting heroin	Yes
Other regular use	Crack/cocaine (2 times in last month)
Age of first use (heroin)	30
Age first regular use	36
Age first injected	36
Age first treatment	Not known
Number of previous treatment episodes	0
Number of periods of abstinence	0
Date participant entered trial	27/02/2006
Date of qualitative interview	09/08/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 4 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Retained in IOT – in SIH at time of interview
Treatment at 2 months	SIM
Dose at 2 months	100mg
Additional OM at 2 months	50mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	50mg
Treatment at 4 months	SIM
Dose at 4 months	50mg
Additional OM at 4 months	50mg
Treatment at 5 months	SIM
Dose at 5 months	50mg
Additional OM at 5 months	100mg
Treatment at 6 months	SIM
Dose at 6 months	50mg
Additional OM at 6 months	100mg
Treatment at 9 months	SIH
Dose at 9 months	400
Drug at 12 months	SIH
Dose at 12 months	200mg
Additional OM at 12 months	50mg
Drug at 15 months	SIH

Dose at 15 months	200mg
Additional OM at 15 months	50mg
Drug at 18 months	SIH
Dose at 18 months	200mg
Additional OM at 18 months	50mg
Drug at 21 months	SIH
Dose at 21 months	235mg
Additional OM at 21 months	50mg
Drug at 24 months	SIH
Dose at 24 months	235mg
Additional OM at 24 months	50ml
Drug at 27 months	SIH
Additional OM at 27 months	235
Additional MXL at 27 months	Dose missing
Drug at 28 months	SIH
Drug at 36 months	SIH
Dose at 36 months	210mg (once a day, since 18 months)
Additional MXL at 36 months	300mg
Drug at 41 months	SIM
Dose at 41 months	230mg
Additional MXL at 42 months	300mg
Drug at 48 months	SIH and MXL – doses not recorded
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Low mood at referral – in counselling treatment
Drug use at 1 month	Heroin=28; crack/cocaine=20
Drug use at 2 months	Heroin=28; crack/cocaine=20; codeine tablet=1
Drug use at 3 months	Heroin=20; crack/cocaine=15
Drug use at 4 months	Heroin=28; crack/cocaine=24; alcohol=1
Drug use at 5 months	Heroin=28; crack/cocaine=20
Drug use at 6 months	Heroin=25; crack/cocaine=25
Drug use at 9 months	Heroin=2; crack/cocaine=2
Drug use at 12 months	Heroin=2; crack/cocaine=2
Drug use at 18 months	Heroin=2; crack/cocaine=2
Drug use at 21 months	Heroin=2; crack/cocaine=2
Drug use at 24 months	Heroin=2; crack/cocaine=2
Drug use at 27 months	All=0
Drug use at 28 months	All=0
Drug use at 36 months	All=0
Drug use at 41 months	All=0
Drug use at 48 months	All=0

Case note review 28 – ID 28, participant Robert

File item	Response
RIOTT ID	227
Qualitative ID	28
Gender	Male
Clinic locality	Darlington
DoB	30/03/1978
Employment status	Unemployed/sickness benefit
Parental status	1 (lives elsewhere)
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months (with an 8 week period on SIM according to notes)
Treatment discharge status	IOT clinic closure
Responder status (6 months)	Responder
Age at interview	35
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	3.5 years
Dose on trial entry	40ml
How many days injected in the last month (baseline)	30 (2-5 times per day)
Injecting heroin	Yes
Other regular use	Benzodiazepines
Age of first use (heroin)	16
Age first regular use	17
Age first injected	20
Age first treatment episode	21
Number of previous treatment episodes	5
Number of periods of abstinence	0
Date participant entered trial	23/11/2006
Date of qualitative interview	02/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIM; 2. OOM; 3. SIH
Date participant left IOT	Last data collected at 3 years (02/06/2010)
Drug at baseline	SIH
Dose at baseline	120mg
Additional OM at baseline	20mg
Treatment at 3 months	SIH
Dose at 3 months	500mg
Additional OM at 3 months	55mg
Treatment at 6 months	SIH
Dose at 6 months	230mg
Additional OM at 6 months	55mg
Drug at 12 months	SIH
Dose at 12 months	230mg
Additional OM at 12 months	75mg
Drug at 18 months	SIH
Dose at 18 months	110mg
Additional OM at 18 months	55mg
Drug at 24 months	SIH
Dose at 24 months	220mg
Additional OM at 24 months	75mg
Drug at 36 months	SIH
Dose at 36 months	Missing

Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IV
Other clinical info	Diagnosis of depression
Drug use at baseline	Heroin=30; crack/cocaine=2; illicit methadone=2; cannabis=2
Drug use at 3 months	Heroin=2; crack/cocaine=2; cannabis=3
Drug use at 6 months	Crack/cocaine=1; cannabis=15
Drug use at 9 months	Crack/cocaine=1; cannabis=4
Drug use at 12 months	Cannabis=15
Drug use at 24 months	Cannabis=7

Case note review 29 – ID 29, participant Rita

File item	Response
RIOTT ID	220
Qualitative ID	29
Gender	Female
Clinic locality	Darlington
DoB	24/09/1959
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 12 months; OOM: 24 months
Responder status (6 months)	Non-responder
Treatment discharge status	Negative; ejected (violations of protocol – tried to take some IOT home)
Age at interview	54
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	2.5 years
Dose on trial entry	75mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Cannabis
Age of first use (heroin)	40
Age first regular use	40
Age first injected	40
Age first treatment episode	41
Number of previous treatment episodes	3 (detox and methadone)
Number of periods of abstinence	0
Date participant entered trial	21/09/2006
Date of qualitative interview	03/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.OOM; 2. SIH; 3. SIM
Treatment preferences at 3 years	1.OOM; 2. SIM; 3. SIH
Date participant left IOT	Last data collected at 3 years (21/04/2010)
Treatment at baseline	SIM
Dose at baseline	60mg
Treatment at 3 months	SIM
Dose at 3 months	60mg
Treatment at 6 months	SIM
Dose at 6 months	50mg
Drug at 12 months	SIM
Dose at 12 months	90mg
Drug at 18 months	SIM
Dose at 18 months	90mg
Drug at 24 months	OOM
Dose at 24 months	90ml
Drug at 36 months	OOM
Dose at 36 months	90mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes (cannabis – NB. According to clinic staff and clinicians there is no crack available in Darlington)
IV or IM	IM

Other clinical info	Diagnosis of depression and prescribed antidepressants
Drug use at baseline	Heroin=21; cannabis=17
Drug use at 1 month	Heroin=15
Drug use at 2 months	Heroin=19
Drug use at 3 months	Heroin=24
Drug use at 4 months	Heroin=12
Drug use at 5 months	Heroin=6
Drug use at 6 months	Heroin=12
Drug use at 24 months	Heroin=6
Drug use at 36 months	Heroin=4; illicit methadone=4

Case note review 30 – ID 30, participant Wayne

File item	Response
RIOTT ID	208
Qualitative ID	30
Gender	Male
Clinic locality	Darlington
DoB	06/05/1966
Employment status	Unemployed/sickness benefit
Parental status	1 (lives elsewhere)
Treatment allocation condition	SIM
Treatment trajectory	SIM: 24 months; SIH: 12 months
Treatment discharge status	IOT clinic closure
Responder status (6 months)	Responder
Age at interview	47
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	24 months
Dose on trial entry	40mg
How many days injected in the last month (baseline)	15
Injecting heroin	Yes
Other regular use	Cannabis
Age of first use (heroin)	18
Age first regular use	18
Age first injected	17 (scored as 17, presume another drug was injected prior to heroin use)
Age first treatment episode	25
Number of previous treatment episodes	3
Number of periods of abstinence	0
Date participant entered trial	08/05/2007
Date of qualitative interview	03/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 2 years	1.SIM; 2. SIH; 3. OOM
Date participant left IOT	Data recorded up to 3 years (2010)
Treatment at baseline	SIM
Dose at baseline	80
Treatment at 3 months	SIM
Dose at 3 months	150
Treatment at 6 months	SIM
Dose at 6 months	120
Drug at 12 months	SIM
Dose at 12 months	150
Additional OM at 12 months	40
Dose at 18 months	150
Additional OM at 18 months	170
Drug at 24 months	SIM
Dose at 24 months	90mg
Drug at 29 months	SIM
Dose at 29 months	90mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IV
Other clinical info	Incarcerated briefly during RIOTT
Drug use at baseline	Heroin=22; cannabis=8; amphetamines=30

Drug use at 2 months	Heroin=5; amphetamine=30
Drug use at 3 months	Heroin=3; amphetamines=30
Drug use at 4 months	Amphetamine=10
Drug use at 5 months	Incarcerated briefly – stated ‘very little use’.
Drug use at 6 months	Cannabis=3
Drug use at 8 months	Amphetamines=10
Drug use at 10 months	All=0
Drug use at 24 months	Cannabis=1
Drug use at 29 months	Cannabis=1

Case note review 31 – ID 31, participant Wes

File item	Response
RIOTT ID	209
Qualitative ID	31
Gender	Male
Clinic locality	Darlington
DoB	09/04/1974
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 24 months; OOM: 12 months
Treatment discharge status	IOT clinic closure
Responder status (6 months)	Responder
Age at interview	39
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	6 months
Dose on trial entry	50mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Alcohol; cannabis (NB. Amphetamines not included as an option on the referral form)
Age of first use (heroin)	21
Age first regular use	21
Age first injected	21
Age first treatment episode	23
Number of previous treatment episodes	3
Number of periods of abstinence	1
Date participant entered trial	31/05/2007
Date of qualitative interview	02/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Data missing
Treatment at baseline	SIH
Dose at baseline	200mg
Additional OM at baseline	25mg
Treatment at 3 months	SIH
Dose at 3 months	400
Additional OM at 3 months	40
Treatment at 6 months	SIH
Dose at 6 months	200mg
Additional OM at 6 months	65mg
Drug at 12 months	SIH
Dose at 12 months	30mg
Drug at 18 months	SIH
Dose at 18 months	30mg
Drug at 24 months	OOM
Dose at 24 months	40mg
Drug at 36 months	OOM
Dose at 36 months	Missing
Illicit use through Treatment	No
Use of other drugs through Treatment	Yes
IV or IM	IV

Drug use at 3 months	Benzodiazepines=12; cannabis=30; alcohol=30
Drug use at 6 months	Cannabis=15; alcohol=8

Case note review 32 – ID 32, participant Susie

File item	Response
RIOTT ID	241
Qualitative ID	32
Gender	Female
Clinic locality	Darlington
DoB	17/03/1977
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 6 months; SIH: 18 months
Treatment discharge status	Negative: ejected (continued illicit use – which the participant claimed were false positive UDS results during qualitative interview)
Responder status (6 months)	Non-responder
Age at interview	36
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	"Years"
Dose on trial entry	40mg
How many days injected in the last month (baseline)	28
Injecting heroin	Yes
Other regular use	Benzodiazepines
Age of first use (heroin)	21
Age first regular use	21
Age first injected	25
Age first treatment episode	25
Number of previous treatment episodes	3
Number of previous periods of abstinence	0
Date participant entered trial	27/03/2008
Date of qualitative interview	05/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 2 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 24 months (undated)
Treatment at baseline	OOM
Dose at baseline	80mg
Treatment at 3 months	OOM
Dose at 3 months	100mg
Treatment at 6 months	OOM
Dose at 6 months	120mg
Drug at 12 months	SIH
Dose at 12 months	470
Additional OM at 12 months	40mg
Drug at 18 months	SIH
Dose at 18 months	230mg
Additional OM at 18 months	40mg
Drug at 24 months	SIH
Dose at 24 months	470mg
Additional OM at 24 months	40ml
Illicit use through Treatment	Yes
Use of other drugs through Treatment	No (only once – 1 benzodiazepine tablet)

IV or IM	Missing
Drug use at baseline	Heroin=29
Drug use at 3 months	Heroin=20; benzodiazepines=1
Drug use at 6 months	Heroin=30
Drug use at 24 months	All=0

Case note review 33 – ID 33, participant Kevin

File item	Response
RIOTT ID	242
Qualitative ID	33
Gender	Male
Clinic locality	Darlington
DoB	19/04/1973
Employment status	Unemployed/sickness benefit
Parental status	1 (lives elsewhere)
Treatment allocation condition	SIH
Treatment trajectory	SIH: 24 months
Treatment discharge status	IOT clinic closure
Responder status (6 months)	Responder
Age at interview	40
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	"Years"
Dose on trial entry	50mg/ml
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	None
Age of first use (heroin)	15
Age first regular use	21
Age first injected	15
Age first treatment episode	29
Number of previous treatment episodes	2
Number of periods of abstinence	0
Date participant entered trial	01/07/2008
Date of qualitative interview	05/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 2 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 2 years (13/10/2010)
Treatment at baseline	SIH
Dose at baseline	80mg
Additional OM at baseline	80mg
Treatment at 3 months	SIH
Dose at 3 months	680mg
Additional OM at 3 months	40mg
Treatment at 6 months	SIH
Dose at 6 months	340mg
Additional OM at 6 months	40mg
Drug at 12 months	SIH
Dose at 12 months	640mg
Additional OM at 12 months	40ml
Drug at 18 months	SIH
Dose at 18 months	360mg
Additional OM at 18 months	35mg
Drug at 24 months	SIH
Dose at 24 months	360mg
Additional OM at 24 months	35mg
Illicit use through Treatment	No (only once, at 3 months)
Use of other drugs through Treatment	No
IV or IM	Both

Drug use at 3 months	Heroin=1;
Drug use at 6 months	All=0
Drug use at 12 months	All=0
Drug use at 24 months	All=0

Case note review 34 – ID 34, participant Richard

File item	Response
RIOTT ID	237
Qualitative ID	34
Gender	Male
Clinic locality	Darlington
DoB	01/06/1969
Employment status	Unemployed/sickness benefit
Parental status	1 (lives with participant)
Treatment allocation condition	SIM
Treatment trajectory	SIM: 12 months; SIH: 6 months; OOM: 6 months
Treatment discharge status	Negative; ejected – Valium use
Responder status (6 months)	Responder
Age at interview	44
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	Missing
Dose on trial entry	110mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Benzodiazepines
Age of first use (heroin)	25
Age first regular use	25
Age first injected	28
Age first treatment episode	3
Number of previous treatment episodes	3
Number of periods of abstinence	0
Date participant entered trial	07/02/2008
Date of qualitative interview	05/12/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 2 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Last data collected at 2 years (24/03/2010)
Treatment at baseline	SIM
Dose at baseline	100mg
Treatment at 3 months	SIM
Dose at 3 months	170mg
Treatment at 6 months	SIM
Dose at 6 months	150mg
Drug at 12 months	SIH
Dose at 12 months	300mg
Additional OM at 12 months	40mg
Drug at 18 months	OOM
Dose at 18 months	95mg
Drug at 24 months	SIM
Dose at 24 months	Missing
Drug at 36 months	Missing
Dose at 36 months	Missing
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at baseline	Heroin=0; benzodiazepines=3; cannabis=30; alcohol=8

Drug use at 1 month	Heroin=15; crack/cocaine=3; cannabis=3; amphetamine=2
Drug use at 2 months	Heroin=8; benzodiazepines=6; crack/cocaine=4; cannabis=24
Drug use at 3 months	Heroin=1; crack/cocaine=2; alcohol=10
Drug use at 4 months	Heroin=4; benzodiazepines=5; crack/cocaine=1; cannabis=20
Drug use at 5 months	Heroin=1; benzodiazepines=2; cannabis=10; alcohol=20
Drug use at 6 months	Benzodiazepines=2; cannabis=30; alcohol=10
Drug use at 24 months	Heroin=15; illicit methadone=15; alcohol=30

Case note review 35 – ID 35, participant Scott

File item	Response
RIOTT ID	54
Qualitative ID	35
Gender	Male
Clinic locality	London
DoB	17/07/1970
Employment status	Unemployed/sickness benefits
Parental status	0
Treatment allocation condition	OOM
Treatment trajectory	OOM: 3 months; SIH: 30 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	43
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	1 month (previous was 18 months)
Dose on trial entry	65mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Crack/cocaine
Age of first use (heroin)	16
Age first regular use	16
Age first injected	30
Age first treatment episode	22
Number of previous treatment episodes	1
Number of periods of abstinence	0
Date participant entered trial	07/01/2007
Date of qualitative interview	23/09/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Retained in IOT – in IOT at time of interview
Treatment at 1 month	OOM
Dose at 1 month	120mg
Treatment at 3 months	OOM
Dose at 3 months	130mg
Treatment at 4 months	OOM
Dose at 4 months	130mg
Treatment at 5 months	OOM
Dose at 5 months	90mg
Treatment at 6 months	OOM
Dose at 6 months	130mg
Treatment at 9 months	SIH
Dose at 9 months	460mg
Additional MXL at 9 months	400mg
Drug at 12 months	SIH
Dose at 12 months	500mg
Additional MXL at 12 months	500mg
Drug at 21 months	SIH
Dose at 21 months	410mg
Additional OM at 21 months	45mg
Drug at 24 months	SIH
Dose at 24 months	410mg

Additional MXL at 24 months	500mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
Drug use at 1 month	Heroin=17; crack/cocaine=10
Drug use at 3 months	Heroin=15; crack/cocaine=10
Drug use at 4 months	Heroin=16; crack/cocaine=8
Drug use at 5 months	Heroin=15; crack/cocaine=8; benzodiazepines=3
Drug use at 6 months	Heroin=16; crack/cocaine=8
Drug use at 9 months	Heroin=5; crack/cocaine=8
Drug use at 12 months	All=0
Drug use at 21 months	Alcohol=7
Drug use at 24 months	All=0
Drug use at 32 months	All=0

Case note review 36 – ID 36, participant Lee

File item	Response
RIOTT ID	19
Qualitative ID	36
Gender	Male
Clinic locality	London
DoB	19/03/1963
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Responder
Age at interview	50
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	5 years
Dose on trial entry	35ml
How many days injected in the last month (baseline)	20
Injecting heroin	Yes
Other regular use	Yes
Age of first use (heroin)	16
Age first regular use	16
Age first injected	18
Age first treatment episode	23
Number of previous treatment episodes	5 (detox)
Number of periods of abstinence	0
Date participant entered trial	01/02/2006
Date of qualitative interview	14/08/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Still in IOT at time of interview
Treatment at baseline	SIH
Dose at baseline	230mg
Additional OM at baseline	20mg
Treatment at 1 month	SIH
Treatment at 2 months	SIH
Dose at 2 months	230mg
Additional OM at 2 months	20ml
Treatment at 3 months	SIH
Dose at 3 months	230mg
Additional OM at 3 months	20mg
Treatment at 4 months	SIH
Dose at 4 months	280mg
Additional OM at 4 months	15mg
Treatment at 5 months	SIH
Dose at 5 months	300mg
Additional OM at 5 months	15mg
Treatment at 6 months	SIH
Dose at 6 months	300mg
Additional OM at 6 months	15mg
Treatment at 9 months	SIH
Dose at 9 months	240mg
Additional OM at 9 months	45mg

Drug at 12 months	SIH
Dose at 12 months	250mg
Additional OM at 12 months	45mg
Drug at 15 months	SIH
Dose at 15 months	250mg
Additional OM at 15 months	45mg
Drug at 18 months	SIH
Dose at 18 months	250mg
Additional OM at 18 months	45mg
Drug at 21 months	SIH
Dose at 21 months	250mg
Additional OM at 21 months	45mg
Drug at 24 months	SIH
Dose at 24 months	250mg
Additional OM at 24 months	45mg
Drug at 36 months	SIH
Dose at 36 months	250mg
Additional MXL at 36 months	360mg
Drug at 41 months	SIH
Dose at 41 months	250mg
Additional MXL at 41 months	360mg
Illicit use through Treatment	Yes (minimal use at the beginning)
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at 1 month	Heroin=4; crack/cocaine=4; benzodiazepines=2; alcohol=12
Drug use at 2 months	Heroin=1; crack/cocaine=4; benzodiazepines=2; cannabis=2; alcohol=12
Drug use at 3 months	Crack/cocaine=3; benzodiazepines=1; cannabis=2; alcohol=8
Drug use at 4 months	Crack/cocaine=2; benzodiazepines=1; cannabis=5; alcohol=12
Drug use at 5 months	Crack/cocaine=3; alcohol=12
Drug use at 6 months	Crack/cocaine=3 cannabis=1; alcohol=7
Drug use at 9 months	Crack/cocaine=4; alcohol=8
Drug use at 12 months	Crack/cocaine=3; alcohol=8
Drug use at 15 months	Crack/cocaine=2; cannabis=1; alcohol=16
Drug use at 18 months	Alcohol=8
Drug use at 21 months	Cocaine=2; alcohol=15
Drug use at 24 months	Alcohol=8
Drug use at 28 months	Alcohol=3
Drug use at 36 months	Crack=1; alcohol=2

Case note review 37 – ID 37, participant Elena

File item	Response
RIOTT ID	12
Qualitative ID	37
Gender	Female
Clinic locality	London
DoB	14/09/1962
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; SIH: 30 months
Treatment discharge status	Positive: progressed to MXL
Responder status (6 months)	Responder
Age at interview	51
Ethnic origin	White Other
Drug on trial entry	OM
Treatment episode length	3 years +
Dose on trial entry	35ml
How many days injected in the last month (baseline)	25
Injecting heroin	Yes
Other regular use	None
Age of first use (heroin)	19
Age first regular use	24
Age first injected	19
Age first treatment episode	26
Number of previous treatment episodes	1
Number of periods of abstinence	0
Date participant entered trial	26/10/2005
Date of qualitative interview	16/08/2013
Current treatment status	MXL
Treatment preferences at baseline	1.SIM; 2. SIH; 3. OOM
Treatment preferences at 3 years	Missing
Date participant left IOT	Data collected at 44 months (13/01/2009)
Treatment at 3 months	SIM
Dose at 3 months	Missing
Treatment at 4 months	SIM
Dose at 4 months	60mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Additional OM	75mg
Treatment at 9 months	SIH
Dose at 9 months	280mg
Additional OM at 9 months	65mg
Drug at 12 months	SIH
Dose at 12 months	280mg
Additional OM at 12 months	55mg
Drug at 15 months	SIH
Dose at 15 months	310mg
Additional OM at 15 months	55mg
Drug at 18 months	SIH
Dose at 18 months	320mg
Additional OM at 18 months	65ml
Drug at 21 months	SIH
Dose at 21 months	320mg

Additional OM at 21 months	65mg
Drug at 24 months	SIH
Dose at 24 months	410mg
Additional OM at 24 months	45ml
Drug at 30 months	SIH
Dose at 30 months	280mg
Additional OM at 30 months	85mg
Drug at 36 months	SIH
Dose at 36 months	a.200mg
Additional MXL at 36 months	a.630mg / b. 900mg
Additional OM at 36 months	b. 25mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	IM
Other clinical info	Ex-partner also on trial
Drug use at baseline	Heroin=24; crack/cocaine=4; alcohol=17
Drug use at 1 month	Heroin=15; crack/cocaine=9; cannabis=2;alcohol=20
Drug use at 2 months	Heroin=13; crack/cocaine=8; cannabis=1; alcohol=13
Drug use at 3 months	Heroin=4; crack/cocaine=6; codeine=1; alcohol=20
Drug use at 4 months	Crack/cocaine=4; codeine (for flu)=5; alcohol=20
Drug use at 5 months	Heroin=1; crack/cocaine=2/ alcohol=24
Drug use at 6 months	Heroin=2; crack/cocaine=4; alcohol=24
Drug use at 9 months	Crack/cocaine=5; alcohol=30
Drug use at 12 months	Alcohol=30
Drug use at 15 months	Codeine=1 (“for headache”); crack/cocaine=1; alcohol=30
Drug use at 24 months	Alcohol=7
Drug use at 30 months	Cannabis=7; alcohol=5
Drug use at 36 months	Alcohol=30
Drug use at 44 months	Alcohol=30

Case note review 38 – ID 38, participant Euan

File item	Response
RIOTT ID	40
Qualitative ID	38
Gender	Male
Clinic locality	London
DoB	23/03/1966
Employment status	Unemployed/sickness benefit
Parental status	0
Responder status (6 months)	Non-responder
Treatment allocation condition	SIM
Treatment trajectory	OOM: 12 months; SIH: 6 months; SIM: 6 months
Treatment discharge status	Negative (Other): prison
Age at interview	47
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	15 months
Dose on trial entry	80mg
How many days injected in the last month (baseline)	12
Injecting heroin	Yes
Other regular use	None
Age of first use (heroin)	18
Age first regular use	20
Age first injected	19
Age first treatment episode	19
Number of previous treatment episodes	3 (methadone)
Number of periods of abstinence	0
Date participant entered trial	06/11/2006
Date of qualitative interview	19/08/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. OOM (would not take up SIM)
Treatment preferences at 6 months	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	By 18 months (around May 2008)
Treatment at baseline	SIM
Dose at baseline	80mg
Treatment at 2 months	SIM
Dose at 2 months	120mg
Additional OM at 2 months	20mg
Treatment at 3 months	SIM
Dose at 3 months	150mg
Additional OM at 3 months	40mg
Treatment at 4 months	150mg
Additional OM at 4 months	40mg
Treatment at 5 months	SIM
Dose at 5 months	150mg
Additional OM at 5 months	40mg
Treatment at 6 months	SIM
Dose at 6 months	150mg
Additional OM at 6 months	40mg
Drug at 12 months	SIH
Dose at 12 months	Missing
Drug at 18 months	In prison
Dose at 18 months	Missing
Drug at 24 months	OM

Dose at 24 months	Missing
Drug at 36 months	OM
Dose at 36 months	Missing
Drug at 51 months	OM
Dose at 51 months	100mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	HIV positive
Drug use at baseline	Heroin=30; crack/cocaine=30; benzodiazepines=1; cannabis=5
Drug use at 2 months	Heroin=22; crack/cocaine=22; cannabis=5; alcohol=10
Drug use at 3 months	Heroin=10; crack/cocaine=10; cannabis=4
Drug use at 4 months	Heroin=9; crack/cocaine=9
Drug use at 5 months	Heroin=8; crack/cocaine=8; cannabis=1; alcohol=16
Drug use at 6 months	Heroin=14; crack/cocaine=14
Drug use at 51 months	Heroin=4; illicit methadone=4; crack/cocaine=4; alcohol=9

Case note review 39 – ID 39, participant Patrick

File item	Response
RIOTT ID	45
Qualitative ID	39
Gender	Male
Clinic locality	London
DoB	25/09/1974
Employment status	Unemployed/sickness benefit
Parental status	2 (live elsewhere)
Treatment allocation condition	OOM
Treatment trajectory	OOM: 12 months; SIH: 24 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Responder
Age at interview	39
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	Missing
Dose on trial entry	50mg
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	Crack/cocaine
Age of first use (heroin)	17
Age first regular use	28
Age first injected	30
Age first treatment episode	30
Number of previous treatment episodes	2
Number of periods of abstinence	0
Date participant entered trial	20/02/2007
Date of qualitative interview	15/08/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Still in IOT at time of interview
Treatment at 1 month	OOM
Dose at 1 month	100mg
Treatment at 2 months	OOM
Dose at 2 months	120mg
Treatment at 3 months	OOM
Dose at 3 months	120mg
Treatment at 4 months	OOM
Dose at 4 months	120mg
Treatment at 5 months	OOM
Dose at 5 months	130mg
Treatment at 6 months	OOM
Dose at 6 months	130mg
Treatment at 9 months	SIH
Dose at 9 months	430mg
Additional OM at 9 months	60mg
Drug at 12 months	SIH
Dose at 12 months	250mg
Additional OM at 12 months	60mg
Drug at 18 months	SIH
Dose at 18 months	280
Drug at 21 months	SIH
Dose at 21 months	220mg

Additional MXL at 21 months	600mg
Drug at 24 months	SIH
Dose at 24 months	220mg
Additional MXL at 24 months	600mg
Drug at 36 months	SIH
Dose at 36 months	Missing
Illicit use through treatment	Yes
Use of other drugs through treatment	Yes
IV or IM	IM
Other clinical info	Diagnosed with bipolar disorder.
Drug use at baseline	Heroin=30; crack/cocaine=1; cannabis=2
Drug use at 1 month	Heroin=30; crack/cocaine=30; benzodiazepines=2
Drug use at 2 months	Heroin=30; crack/cocaine=30; cannabis=4
Drug use at 3 months	Heroin=30; crack/cocaine=30; cannabis=5
Drug use at 4 months	Heroin=30; crack/cocaine=30
Drug use at 5 months	Heroin=30; crack/cocaine=30; cannabis=1
Drug use at 6 months	Heroin=30; crack/cocaine=30; cannabis=2
Drug use at 9 months	Heroin=2; crack/cocaine=12
Drug use at 21 months	Crack/cocaine=2
Drug use at 24 months	Crack/cocaine=3
Drug use at 36 months	All=0

Case note review 40 – ID 40, participant Cheryl

File item	Response
RIOTT ID	57
Qualitative ID	40
Gender	Female
Clinic locality	London
DoB	23/02/1975
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIM
Treatment trajectory	SIM: 6 months; OM: 12 months
Treatment discharge status	Positive: Voluntary move to OM
Responder status (6 months)	Responder
Age at interview	38
Ethnic origin	White Other
Drug on trial entry	OM
Treatment episode length	18 months
Dose on trial entry	70ml
How many days injected in the last month (baseline)	Missing
Injecting heroin	Yes
Other regular use	Crack cocaine; occasional cannabis and benzodiazepines
Age of first use (heroin)	14
Age first regular use	20
Age first injected	40
Age first treatment episode	41
Number of previous treatment episodes	0
Number of periods of abstinence	0
Date participant entered trial	11/09/2007
Date of qualitative interview	21/08/2013
Current treatment status	OM
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 6 months	Missing
Date participant left IOT	6 months (17/04/2008)
Treatment at 2 months	100mg
Additional OM at 2 months	50mg
Treatment at 3 months	SIM
Dose at 3 months	100mg
Additional OM at 3 months	50mg
Treatment at 4 months	SIM
Dose at 4 months	100mg
Additional OM at 4 months	50mg
Treatment at 5 months	SIM
Dose at 5 months	100mg
Additional OM at 5 months	90mg
Treatment at 6 months	SIM
Dose at 6 months	100mg
Drug at 12 months	Missing
Dose at 12 months	Missing
Drug at 18 months	Missing
Dose at 18 months	Missing
Drug at 24 months	OM
Dose at 24 months	175mg
Drug at 32 months	OM
Illicit use through Treatment	Yes (first six months only)

Use of other drugs through Treatment	Yes
IV or IM	Both
Other clinical info	Diagnosis of depression
Drug use at baseline	Heroin=30; crack/cocaine=20; cannabis=1;
Drug use at 2 months	Heroin=15; crack/cocaine=16; benzodiazepines=1
Drug use at 3 months	Heroin=15; crack/cocaine=23; cannabis=7
Drug use at 4 months	Heroin=7; crack/cocaine=10; cannabis=2
Drug use at 5 months	Crack/cocaine=12; benzodiazepines=1; cannabis=4
Drug use at 6 months	Crack/cocaine=9
Drug use at 24 months	Crack/cocaine=16; benzodiazepines=1
Drug use at 32 months	Crack/cocaine=10

Case note review 41 – ID 41, participant Josh

File item	Response
RIOTT ID	301
Qualitative ID	41
Gender	Male
Clinic locality	Brighton
DoB	24/11/1977
Employment status	Unemployed/sickness benefit
Parental status	0
Treatment allocation condition	SIH
Treatment trajectory	SIH: 36 months
Treatment discharge status	Long-term IOT
Responder status (6 months)	Non-responder
Age at interview	36
Ethnic origin	WB
Drug on trial entry	OM
Treatment episode length	5 years (“on and off”)
Dose on trial entry	50ml
How many days injected in the last month (baseline)	30
Injecting heroin	Yes
Other regular use	None
Age of first use (heroin)	16
Age first regular use	21
Age first injected	16
Age first treatment episode	24
Number of previous treatment episodes	6
Number of periods of abstinence	0
Date participant entered trial	03/08/2007
Date of qualitative interview	07/10/2013
Current treatment status	SIH
Treatment preferences at baseline	1.SIH; 2. SIM; 3. OOM
Treatment preferences at 3 years	1.SIH; 2. SIM; 3. OOM
Date participant left IOT	Still in SIH at time of interview
Treatment at 3 months	SIH
Dose at 3 months	Missing
Treatment at 6 months	SIH
Dose at 6 months	190mg
Additional OM at 6 months	50mg
Drug at 12 months	SIH
Dose at 12 months	170mg
Additional OM at 12 months	50mg
Drug at 18 months	SIH
Dose at 18 months	160mg
Additional OM at 18 months	60mg
Dose at 24 months	160mg
Additional OM at 24 months	50mg
Drug at 36 months	SIH
Dose at 36 months	160mg
Additional OM at 36 months	50mg
Illicit use through Treatment	Yes
Use of other drugs through Treatment	Yes
IV or IM	Both
Drug use at baseline	Heroin=30; crack/cocaine=2; alcohol=8

Drug use at 3 months	Heroin=27; crack/cocaine=4; codeine=8; benzodiazepines=4; alcohol=28
Drug use at 6 months	Heroin=10; crack/cocaine=3; benzodiazepines=2; alcohol=16
Drug use at 12 months	Heroin=1; crack/cocaine=1; alcohol=28
Drug use at 25 months	Alcohol=18
Drug use at 36 months	Heroin=1; alcohol=15